行政院國家科學委員會專題研究計畫 成果報告

科技不確定性與機會主義：關係治理機制節制效果之檢驗
研究成果報告(精簡版)

計 畫 類 別 ：個別型
計 畫 編 號 ：NSC 99-2410-H-009-028-
執 行 期 間 ：99 年 08 月 01 日至 100 年 07 月 31 日
執 行 單 位 ：國立交通大學經營管理研究所

計 畫 主 持 人：唐瓔璋

報 告 附 件 ：出席國際會議研究心得報告及發表論文

處 理 方 式 ：本計畫可公開查詢

中 華 民 國 100 年 08 月 02 日

行政院國家科學委員會補助專題研究計畫成果報告

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共同主持人：
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科技不確定性與機會主義：關係治理機制節制效果之檢驗

Technology Uncertainty and Opportunism: the Moderating Effects of Relationship Governance

中文摘要

企業之間的交易活動，往往因為資訊不對稱（Information Asymmetry）與鎖入效應（Lock-in Effect）促使交易的一方進行投機行為，即所謂的機會主義（Opportunism）。為了抑制機會主義，企業通常會透過垂直整合或其他可行的治理機制，將交易成本降低，以促進交易的效率。但是高科技業如連接器或晶片的供應商，由於科技變化所產生的高不確定性，其面對的交易對象與採購行為更為複雜。本研究將針對大中國區的廠商，以問卷調查的方式，將交易機制與機會主義作一整體性的實證檢驗。諸多文獻均指出「關係」是在中國經商的關鍵，本研究假設關係規範在不同的治理機制中是否最具成效，並檢驗「關係治理」機制是否對機會主義具抑制的能力。

INTRODUCTION

In the twenty-first century, China will become the largest emerging economy in the world. Due to lower labor costs, China is one of the most important manufacturing areas in the global supply chain. In the past five years, the Chinese government has influenced the investment of about $7 billion in new semiconductor production (SEMI.COM 2009). SEMI.COM forecasts that another $20–$25 billion will be invested in the next five years, and that investment will reach $30 billion by 2020. In addition to the semiconductor industry, China's flat-panel display industry is also rapidly expanding. By 2012, liquid-crystal display (LCD) television sales are forecasted to exceed 33 million units, compared to 12.6 million units in 2006. Most technology companies, including original equipment manufacturers (OEM), original design manufacturers (ODM), and original brand manufacturers (OBM), have shifted their manufacturing facilities to China in order to maintain a cost advantage. Industry analysts anticipate that only those equipment and materials suppliers that leverage their relationships with Chinese chains will prosper in the next decade. It is thus important to understand the mechanisms that underlie purchasing activities in China.

Technology uncertainty in high-technology markets has received considerable attention (Glazer 1991; Heide and Weiss 1995; Pae and Hyun 2007). Purchasing behavior opportunism is a related factor that has also been studied (Heide, Wathne, and Rokkan 2007; Rokkan, Heide, and Wathen 2003; Wathne and Heide 2000). Although research has increasingly focused on procurement and opportunism among member firms, little attention has been given to the relationship between these two behaviors, particularly in China's high-technology market. Opportunism and pragmatism may be components of purchasing behavior as firms consider or switch to other vendors. Heide and Weiss (1995) have examined the characteristics of high-technology markets and their effects on the buyer's decision-making process at the consideration and switching stages. Opportunism in business-to-business relationships may erode the other party, but may also allow for the involvement of new players in an emerging market.

Organizations in China face confusing and inconsistent bureaucracy in procurement procedures, due in large

part to cultural differences and the lack of law enforcement. The involvement of global suppliers in China's high-technology market has become a focus of research. In recent years, researchers (Lee, Pae, and Wong 2001; Zhao, Flynn, and Roth 2006) have argued that *guanxi* relationships are central to business in China. Kaufman, Jayachandran, and Rose (2006) found that the likelihood of new product acceptance increased as much as 60% when the buyer had a strong relationship with the salesperson. *Guanxi* is embedded in purchasing behavior and enhances competitive advantage.

Success in business-to-business markets relies on understanding the client's purchasing behavior (Bunn 1993). Although China is an important market, empirical studies that characterize purchasing behavior and opportunism remain scarce. In particular, little attention has been directed toward the role of opportunism in the purchasing processes of China's high-technology market. This article focuses on two issues faced by purchase managers in China: (1) the influence of technology uncertainty on supplier opportunism in China's high-technology market, and (2) the role of *guanxi* in purchasing behavior and supplier opportunism.

We investigate the mediating effect of governance mechanisms in the management of opportunism and purchasing situational factors. Our main premise is that organizational buyers in China's high-technology market could use alternative governance mechanisms to manage opportunism in situations with differing characteristics. We provide managers with a better understanding of which governance mechanisms to use in different situations and thereby hope to help them more effectively manage opportunism. New suppliers seeking entry into the market can also benefit from understanding how to use opportunism behavior to break into a new supplier chain. With this understanding, managers can more effectively and efficiently manage opportunism in their channels and thereby reduce transaction costs or enter a new market.

研究方法

本研究將採問卷調查法進行資料蒐集，在機會主義部分，詢問有關供應商是否為了保護自身利益而對某些事情說謊、按照合約行事、違反非正式協定等；買方監督包含價格分析、與其他外包訂價的方式作比較；供應商專屬性投資為詢問供應商的製造系統是否經過量身訂做，專門生產要銷售給本公司的產品等；關係規範則詢問兩家公司之間的關係是否建立在互惠與信任的基礎上、當兩家公司出現爭論，雙方會重新評估所有事實以達成雙方皆滿意的折衷方案等。樣本為大中國經濟體連接器生產廠商中，具有材料決定與選擇的研發單位，或產品承認的工程部門，以及負責採購相關作業之採購部門，抽樣架構採用中國和台灣連接器協會會員名冊，以及全球委外(Global Sourcing)廠商名冊進行抽樣。

Purchasing Behavior in the High-Technology Market

Heide and Weiss (1995) have identified two factors that impact organizational buyers in the high-technology market. Due to rapid changes and heterogeneity in technology, uncertainty and switching costs affect a buyer's decision-making process. The authors argue that uncertainty prevails due to a lack of relevant experience with the product category or to a specific market condition that imposes demands on a buyers' information-processing capacity. Buyers in high-technology markets experience frequent uncertainty when trying to cope with rapid changes.

Recent studies have found that switching cost is a primary consideration in the purchasing decision process. Demirhan, Jacob, and Raghunathan (2007) found that in conditions of declining information technology (IT) costs, switching cost impacts IT investment strategies. They argue that when switching cost is high relative to the extent of decline in IT cost, the early entrant may assume an aggressive investment strategy. Thus, it could maintain a market-share leadership even if the firm's relative switching cost is low. Contrarily, the early entrant may increase its investment in quality to battle switching cost. Switching cost is also an important antecedent variable in encouraging technology commitment in the computer software market. If switching cost is high, it drives the repeat purchase or usage of a particular technology (Pae and Hyun 2007).

This proposal thus situates uncertainty and switching cost as antecedent factors in a purchasing situation. Rapidly changing technologies drive the absence of relevant information, which in turn creates a high degree of uncertainty in purchasing. As previous research has indicated, high switching cost drives repeat purchase or usage intent, especially in conditions of pronounced technological heterogeneity.

Opportunism in the High-Technology Market

Our research seeks to understand the purchasing process in the high-technology market through the examination of firms' behavior. Opportunism is an important aspect of this behavior. Williamson (1975, p. 9) defined opportunism as "a lack of candor or honesty in transactions, to include self-interest seeking with guile". Transaction cost analysis (Williamson 1985) shows that parties may act opportunistically if given the chance. Jap and Anderson (2003) identified two elements of opportunistic behavior: (1) distortion of information, including overt behaviors such as lying, cheating, and stealing, as well as more subtle behaviors such as misrepresenting information by not fully disclosing it; and (2) reneging on explicit or implicit commitments (shirking), or failing to fulfill promises and obligations.

Wathne and Heide (2000) have outlined passive and active opportunism constructs in inter-organizational relationships. Passive opportunism is "blatant" or "strong," a manifestation of the moral hazard problem. In this form of opportunism, one of the parties purposely withholds effort or somehow refrains from performing agreed-upon actions. Active opportunism occurs in interfirm relationships that are frequently governed by contracts forbidding certain actions. In this form of opportunism, expressly forbidden acts are committed.

Although opportunism has been discussed for a decade, few articles have focused on opportunism in purchasing behavior. Heide and Weiss (1995) investigated buyers' behavior during the consideration and switching stages in the high-technology market. Their literature review led them to state that increased uncertainty will increase a buyer's sensitivity to information-seeking. Buyers, however, usually choose to remain with current vendors since rapid technological change increases the perceived probability that an existing vendor would ultimately be chosen (Heide and Weiss 1995). Thus, buyers who perceive rapid-change uncertainty and high switching cost are more likely to maintain their relationships with current vendors. Under the premise that firms would like to maintain the existing relationship, suppliers may engage in less self-interested behavior that would endanger that relationship. We therefore propose the following hypotheses:

H1: Greater technology uncertainty is proportionately correlated with less supplier opportunism.

H2: Higher switching cost is proportionately correlated with less supplier opportunism.

Relationship Governance in Industrial Procurement

Switching cost has been discussed in studies of opportunism in specific asset investment (Williamson 1985). Transaction cost theory posits that specific asset investment may give rise to transaction costs that combine to create "market failure" when the market mechanism becomes an inefficient means of mediating exchange (Williamson 1975). These idiosyncratic investments include specific physical assets (e.g., furnishing, storage, promotional material) and idiosyncratic intangible assets (e.g., management procedures, specialized training, partner's brand name capital) (Vazquez, Iglesias, and Rodriguez-del-Bosque 2007).

Suppliers and buyers often consider making specific asset investments in their channel relationships to enhance the efficiency of their buyer channels (Brown, Dev, and Lee 2000; Vazquez, Iglesias, and Rodriguez-del-Bosque 2007). On the other hand, specific asset investment may be a safeguarding mechanism against opportunism (Williamson 1985).

Given technological heterogeneity, buyers in the high-technology market prefer to choose a vendor with whom they have an existing relationship. With rapid changes in technology, however, the lack of standards reduces the buyer's ability to employ a fixed set of decision criteria when selecting among current vendors (Heide and Weiss 1995). We predict that the entry of new vendors with specific technology into the market may lead to increased opportunistic purchasing behavior through specific asset investment:

H3: Specific asset investment is a positive mediator between the purchasing situation and the supplier's opportunism.

Building on relational contracting theory (MacNeil 1980), we may state that relational norms emphasize the positive motivations that follow from mutually oriented behavior. Relational contacting theory was first applied to the employer-employee relationship, termed the psychological contract (Rousseau 1989). This contract embodies the reciprocal obligations between employer and employee (Rousseau 1989). When extended to the business-to-business relationship, the core purpose of the contract is to create a social environment that discourages self-interested behavior in favor of mutual interest seeking (Vazquez, Iglesias, and Rodriguez-del-Bosque 2007).

G*uanxi* lies at the heart of social order in China's business markets, and is among the most important and studied phenomena in China today (Lee and Dawes 2005). Like relational contracts, *guanxi* is implicitly based on mutual interests and benefits (Yang 1994) and comprises a social connection and synonym for special favors and obligations within the *guanxi* circle (Lee and Dawes 2005). *Guanxi* is a major influential concept in managing marketing channels. Most *guanxi* ties are developed through dining and gift-giving, rather than the more formal means of employing lawyers to protect the enforcement of a written contract (Wong and Chan 1999).

Gao, Sirgy, and Bird (2005) suggest that a situation in which buyers perceive that the supplier trusts them and is highly committed to the relationship may reduce buyer decision-making in organizational purchasing. In

other words, when buyers perceive that current suppliers are highly committed to the relationship, opportunism in purchasing behavior would be reduced. When newly entering vendors gain trust in the purchasing procedure, buyers may consider them and thus increase opportunism in purchasing. Given the core *guanxi* features of mutual interest and benefit, we predict that relational norms will positively affect opportunism, even given the rapid change in the high-technology market. Our fourth hypothesis is thus:

H4: Relational exchange is a positive mediator between the purchasing situation and the supplier's opportunism.

Organizational behavior is also influenced by the structure of purchasing centers (Morris, Hansen, and Pitt 1995). Marked differences in power are evident in China's market, due to the nation's pervasive centralized authority and hierarchical structures (Zhou and Chuah 2002). Cardozo (1980) has suggested that increased uncertainty may result in larger purchasing units and greater involvement in the purchasing process by upper-level personnel. McCabe (1987) also found a positive relationship between the level of uncertainty and the centralization of purchasing decisions. Furthermore, Morris, Hansen, and Pitt (1995) have claimed that the structure of the purchasing center is a mediator between environmental turbulence and the decision-making process. Therefore, we predict that centralization will positively influence purchasing behavior in an uncertain market:

H5: The centralization of a firm is a positive mediator between the purchasing situation and the supplier's opportunism.

With the rapid advancement of technology and the lack of corresponding information, most purchasing activities in the high-technology market are becoming increasingly complex. Some purchasing decisions rely on more than one department within a firm. As complexity increases, technical experts and specialists may become a necessary and valuable part of an interdisciplinary team engaged in evaluation of purchasing alternatives (Lau, Goh, and Phua 1999). We thus predict that complexity will positively influence decision-making processes in the high-technology market:

H6: Complexity in the decision-making process is a positive mediator between the purchasing situation and the supplier's opportunism.

Survey Sampling

The above-described hypotheses were tested in a field study of organizational buyers' decision-making processes in China's high-technology market. We intend to select the connector market for study. The sampling frame the member directory of the Taiwan Electronic Connectors Associations and have 255 connector manufacturers in Taiwan and Hong Kong..

Questionnaire Development

Sung (2004) and Su (2004) employed a structured questionnaire, using scales drawn from previous research as benchmarks for the concepts analyzed in their study. Although the data are the same as those used by Sung (2004) and Su (2004), the research construct of this article is different. The current study uses the following scales:

Technology uncertainty. This scale assesses the degree of the buyer's perceived lack of information relevant to

a decision-making situation (Bunn 1993).

Switching cost. This scale measures the buyer's expected cost incurred in connection with locating new suppliers, as well as developing new processes for supplier interaction (Heide and Weiss 1995).

Specific asset investment. This scale describes the extent to which the supplier has made investments that are dedicated to agreements with the connector manufacturers (Stump and Heide 1996).

Relational norms. This scale measures the extent of solidarity, mutuality, flexibility, role integrity, and harmonization of conflict between suppliers and buyers. It was developed by Sung (2004) and Su (2004), based on the five comprising elements of MacNeil (1980).

Complexity. The scale measures the extent of complexity in procurement activities, specifically the degree to which procurement activities are conducted by skilled personnel and the existence of routinely performed discrete purchasing tasks (Lau, Goh, and Phua 1999).

Centralization. This scale describes the distribution of formal control and power within an organization. Most items are adapted from those used by Lau, Goh, and Phua (1999).

Supplier opportunism. This scale measures the extent to which the supplier engages in "self-interest-seeking behaviors with guile" (Williamson 1975). The six items are adapted from those used by Rokkan, Heide, and Wathne (2003).

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8TH GLOBAL MARKETING DYNAMICS CONFERENCE

Co-Chairs: Prasad Naik, Ashwin Aravindakshan

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Day 3: July 27th, 2011

Time	Room: Jaigarh Hall	Room: Ramgarh Hall	Room: Ranthambore Hall
3:00 PM To 3:30 PM	**Tea Break**		
3:30 PM to 5:00 PM	**New Product Diffusion** *Modeling Cross Country Diffusion Of Innovation At Disaggregate Level* Manpreet Singh-Gill, Subhash Jha *Autologistic Models Of Cross-Selling Patterns On New Product's Organic Growth* Ying-Chan Tang, Min-Hua Wu	**Econometric Methods** *Cross Section Pooling As Against Time Series Pooling In Market Analysis* Nagasimha Kanagal *Catch the Flight before it leaves: Measuring the Impact of Discount Pricing on Brand Switching when Customers are Non-Loyal* Amalesh Sharma, Sourav Borah, Navneet Bhatnagar	**Durable Goods Marketing** *What Drives the Replacement of Durable Products* Dinakar Jayarajan, Siddarth S., Jorge Silva-Risso *Personifying Brand for managing Business-to-Business Customers in Emerging Markets* Suraksha Gupta
Conference Ends			

MDC 2011
8th Global Marketing Dynamics
Conference, Jaipur, India

Auto-logistic Models of Cross-selling Patterns on New Product's Organic Growth

Yingchan Tang (presenter) and Min-Hua Wu
National Chiao Tung University, Taiwan

Overview

- This study employs the autologistic model in analyzing spatio-temporal pattern of new product development and its intrinsic growth.

- Keywords: product evolutionary cycle, organic growth, cross-price elasticity, compromise effect, autologistic modeling

Overview (continued)

1. Product Evolutionary Cycle

- *PLC: tautology in deterministic & sequential stages*
  (Dhalla and Yuspeh, 1976; Hunt, 1976, 2010; Tellis and Crawford, 1981; Wind and Claycamp, 1976)
- *PEC: products are continually changing and evolving*
  (Chandrasekaran and Tellis, 2007; Holak and Tang, 1990; Norton and Bass 1987; Tellis and Crawford, 1981)

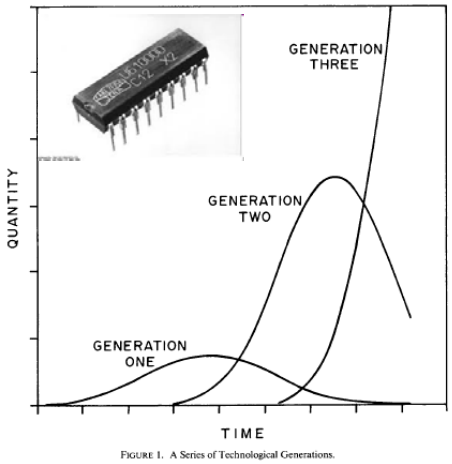
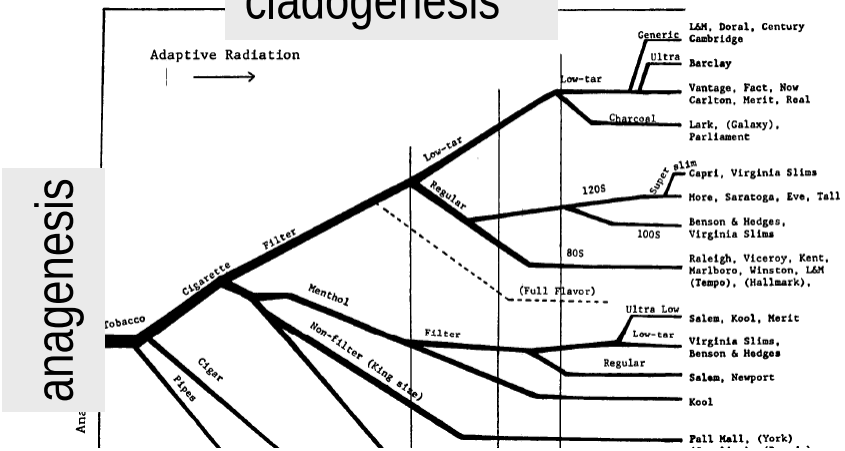


FIGURE 1. A Series of Technological Generations.

cladogenesis

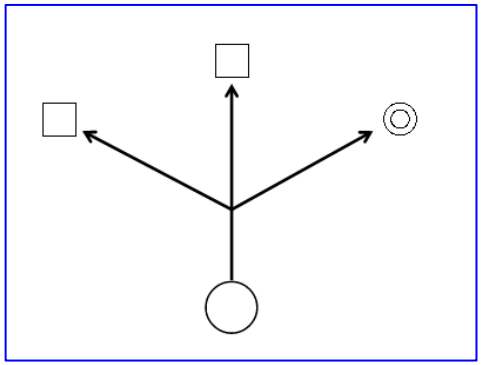
anagenesis



Overview (continued)

2. Organic Growth

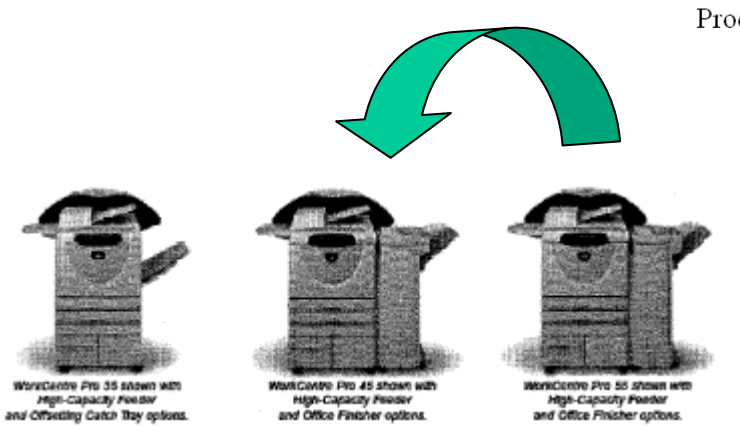
- Intrinsic (vs. Extrinsic) processes: metabolisms, niche/habitat growth, epidemics, new product diffusion (self-limitation)
- Interactive Marketing: up-selling, down-selling, cross-selling (Kamakura et al. 2004; Li et al. 2005)
- Shopping basket: cross-product categories (Ainslie and Rossi 1998; Macchanda et al. 1999; Seetharaman et al. 2005)

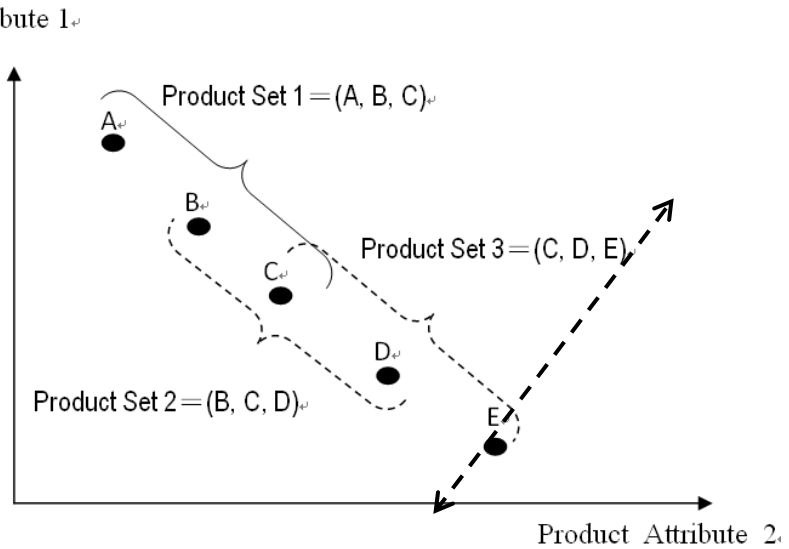


Overview (continued)

3. Compromise Effect

- Extremeness Aversion: an adjacent non-dominated alternative tends to increase the attractiveness of the alternative (Huber, Payne, and Puto, 1982; Kiverz, Netzer, and Srinivasan, 2004; Simonson and Tversky, 1992)
- Tradeoff Contrast: a new alternative can increase the attractiveness of similar alternatives in the choice set.



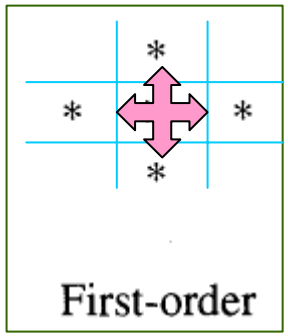


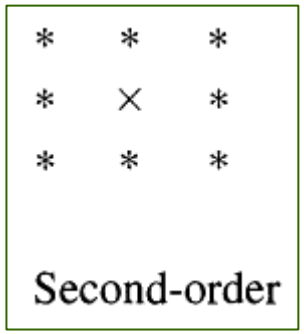
Relevant Research Streams

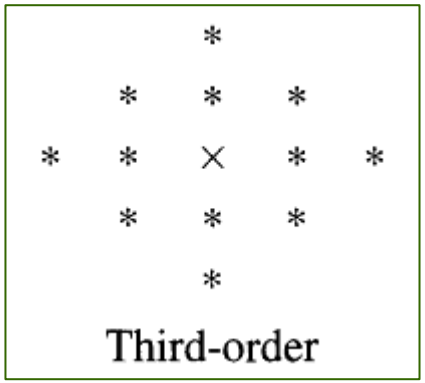
A. Spatial Science

- Spatial Statistics (Besag 1972, 1974, 1975): topological, geometric, geographic characters

- Spatial Economics: location theory, regional science, economic geography (Krugman 1991)



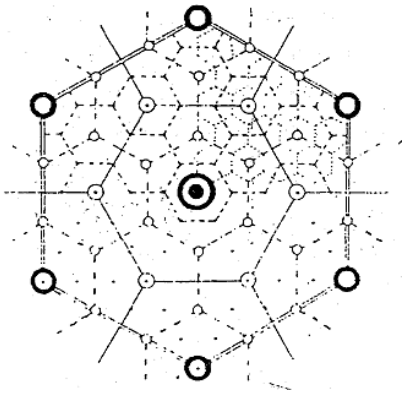


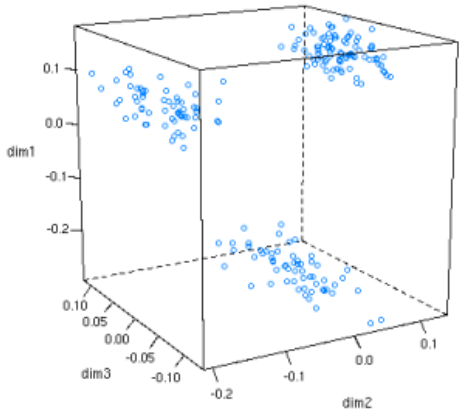


Relevant Research Streams

B. Spatial Marketing

- Spatial Marketing: law of retail gravitation (Reilly 1931), spatial retailing (Ingene 1984), MDS mapping (DeSarbo and Wu 2001), auto-logistic model (Bradlow et al. 2005 Russell and Petersen 2000)

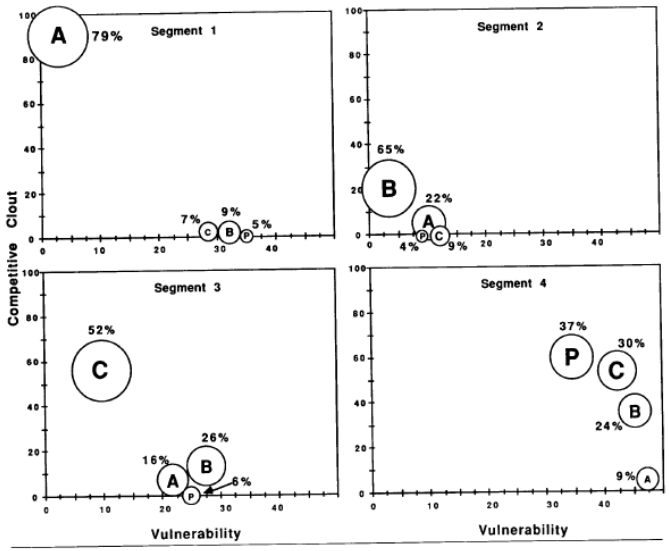




Relevant Research Streams (continued)

C. Spatial Competition

Cross-price elasticity structure, inter-brand substitutability, multinomial logit modeling (**MNL**), positioning map, hidden Markov model (Bucklin and Srinivasan 1991; Cooper 1988; Kamakura and Russell 1989; Russell 1992; Netzer, Lattin, Srinivasan 2008)



Relevant Research Streams (continued)

D. Spatial Mapping on intra- inter- and cross-price competition (Gonz´alez-Benito1, Mart´ınez-Ruiz and Molla-Descals 2009)

$$\pi_t(j) = \frac{A_t(j)}{\sum_{j' \leftarrow J} A_t(j')}$$

$$\delta(j, j') = \left(\beta_{jj'} - \sum_{j'' \neq j'} {}_{j'' \leftarrow J} \beta_{j''j'} \pi_t(j'') \right) p_t(j')$$

a. Price variation in one brand can have different effects to price variation in other brands (i.e., $j \rightarrow j = j \rightarrow j$).
b. Price of each brand can have different effects across competing brands (i.e., $j \rightarrow j = j \rightarrow j$).

Research Setting

- 9 different MP3 models launched in 03/2004~09/2005
- 43,880 units were sold during the period
- Quality signals: Memory capacity, model (design), color, and price

Memory	128MB			256MB			512MB			1GB			5GB		
Model	110	120	150	102	110	120	130	150	180	210	130	200	220	130	720
Color	P	S	P	P	P	S	GR	P	SS	R	G	S	S	GR	BL
	O	G	O	G	G	G	B	O		B	B		R	B	S
	G	O	S	O	O	O	O	S		S	O		B	O	

*Color P is purple, O is orange, G is green, S is silver, GR is grey, B is blue, SS is silver Color shell, R is red, BL is black.

Research Setting (continued)

- Generations: 128MB →256MB →512MB →1G →5G
- Average surviving time: 7 to 16 months

Model	110	120	150	102	180	130	200	210	720	220
Launch(M/Y)	March04	March04	March04	July04	July04	Dec.04	Dec.04	Dec.04	Feb.05	June05
Withdraw (M/Y)	Oct.04	Oct.04	March05	Feb.05	Apr.05	Jan.06	Feb.06	Feb.06	Aug.05	Feb.06
Survival time(M)	8	8	13	8	10	15	16	16	7	9

*Y is year, M is month. For example, Oct.04 is October 2004.

Decoy products

Research Setting (continued)

- Design and Memory/price ratio
- Survived species over time

PEC	Model	110	120	150	102	180	130	200	210	720
First	Average Price	3327	4546	5348						
March to June 2004	Sales Volume	2674	3822	1384						
Second	Average Price	3155	4061	5180	2950	4715				
July to August 2004	Sales Volume	2345	3594	694	650	1365				
Third	Average Price			4407	2693	3700	3668	4835	3309	7578
November 2004 to May 2005	Sales Volume			321	360	415	2319	4366	10583	68

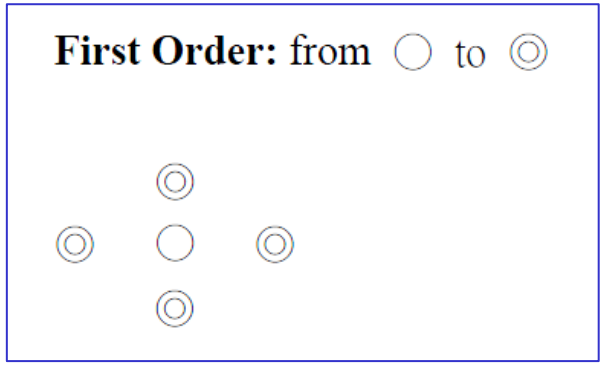
Research Setting (continued)

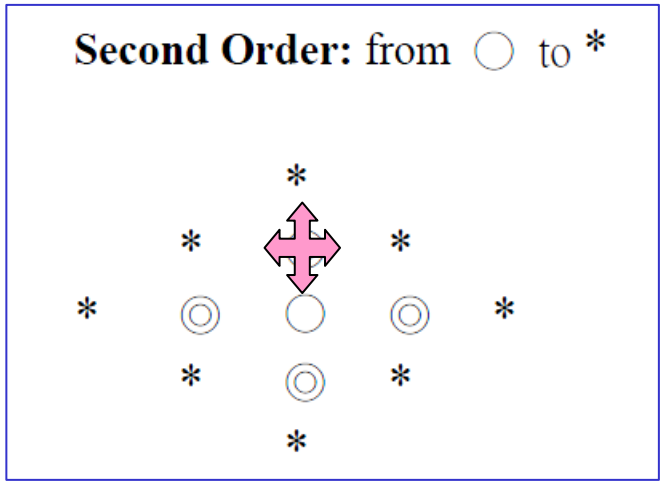
It is interesting to investigate:

- Product attractiveness vs. memory capacity, design, and price elasticity
- Compromise effect of decoy products
- Temporal product development path

Data Calibration

- A set of products can be defined for each quadrant in the lattice and if quadrant *i* is a neighbor of quadrant *j*, the reverse is also true.





Data Calibration (continued)

- For binary data, if the response at site depends in a pair-wise fashion on the observed number of neighbors with attractiveness as the covariate, then the conditional probability of a particular response, $y_i = 1$ (highly attraction) or $y_i = 0$ (lowly attraction), is

$$\Pr(Y_i = y_i \mid x_i, y_j, j \in N_i) = \frac{\exp\left\{\sum_{k=0}^{r} \beta_k x_{ik} y_i + \sum_{j \in N_i} \gamma_j y_i y_j\right\}}{1+\exp\left\{\sum_{k=0}^{r} \beta_k x_{ik} + \sum_{j \in N_i} \gamma_j y_j\right\}}$$

Data Calibration (continued)

- The log of the odds of "diffused disease" being presented is

$$\text{logit}(\Pr(Y_i = 1) \mid x_i, y_j, \text{for } j \in N_i) = \sum_{k=0}^{r} \beta_k x_{ik} + \sum_{j \in N_i} \gamma_j y_j$$

- An autologistic model with two covariates X_1 and X_2, and first order dependence where the spatial dependence is the same magnitude down rows and across rows, would be

$$\text{logit}(\Pr(Y_i = 1) \mid x_{i1}, x_{i2}, s_i) = \beta_0 + \beta_1 x_{i1} + \beta_1 x_{i2} + \gamma_1 s_i$$

Intra- , Inter-, and Cross- Generation Attraction Power

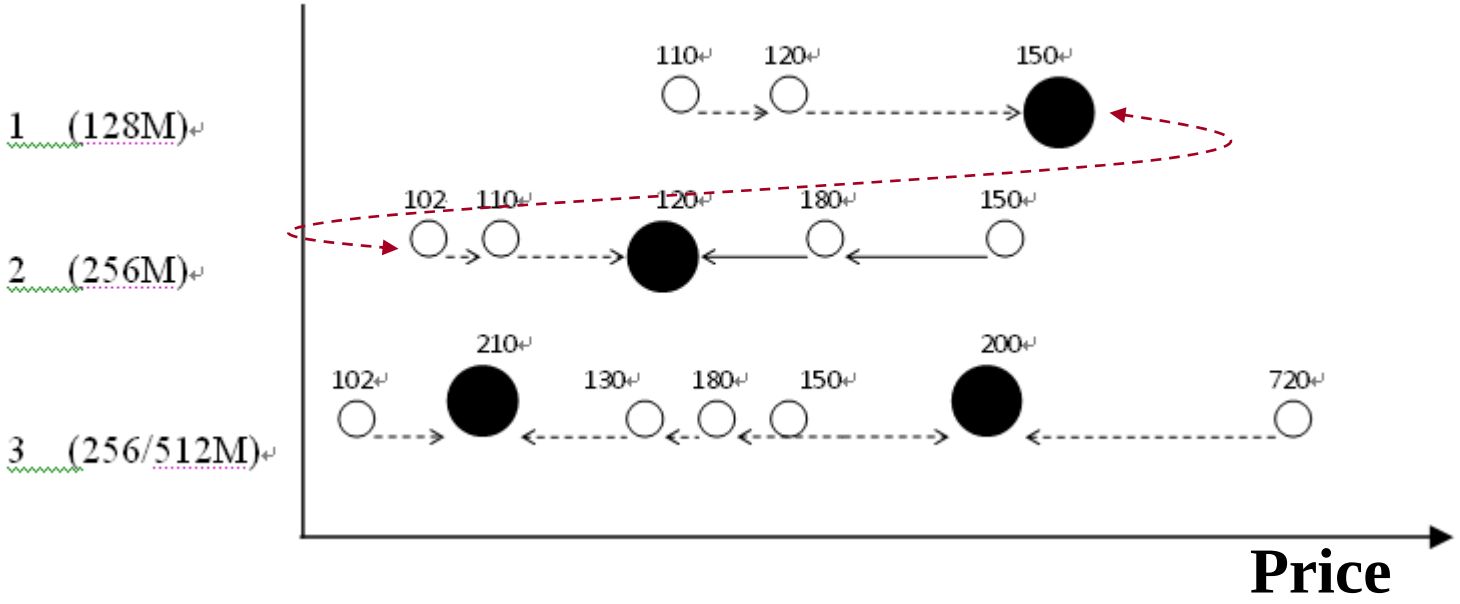
Model / PEC	110	120	150	102	180	130	200	210	720
Generation 1	0.5136	0.9418	0.2131						
Generation 2	0.3720	0.7111	0.0873	0.0813	0.1874				
Generation 3			0.0177	0.0199	0.0230	0.1439	0.3104	1.3483	0.0037

$$\delta(j, j') = \left(\beta_{jj'} - \sum_{j'' \neq j'} {}_{j'' \leftarrow J} \beta_{j'' j'} \pi_t(j'') \right) p_t(j')$$

Intra- , Inter-, and Cross- Generation

Compromise Effect

Product line/Generations/
Quality Signal



Intra- , Inter-, and Cross- Generation Spatial Competition

Model	Intercept	Price	Memory	Within-row selling	Across-row selling	Diagonal (1, 1)	Diagonal (-1, 1)	Missclass.
MODEL1	9.450	-0.001	-3.436*					14.8%
MODEL2	36.110	-0.001	-11.542	-0.314	-11.491	-0.014	0.053	7.4%
MODEL3	6.649			-1.291	-3.499	0.754	-0.697	14.8%

*is significant in level 0.1

			Row	
		$i+1$	i	$i-1$
	$j+1$	D_{ij1}	W_{ij}	D_{ij2}
Quadrant	j	A_{ij}	T_{ij}	A_{ij}
	$j-1$	D_{ij2}	W_{ij}	D_{ij1}

Discussion of Findings

- The proposed model has combined autologistic model with compromise effect to capture the complexity of competitive interactions over time
- It generates direction of change in price competition index to guide new product's substitutability and complementary
- In the product portfolios, the lowest or highest priced products are the most likely to generate positive attraction, verifying the extremeness aversion of consumers.
- However, when prices are too low, the choices of consumers alter toward the lower end; consumers select extremely low priced products to negating the effects of mid-way compromise and decoy options.

Implications and Contribution

- **Theoretical implications**
  - Compromise effect is not the only determinant
  - Flexible for incorporating critical factors, multiple points and multiple generations into model
- **Analytical and methodological implications**
  - The goodness-of-fit, forecasting, and inter- intra- and cross- category can be estimated simultaneously
- **Managerial implications**
  - Analyze the comparative intensity of each new product
  - Review their performance via the systematic coefficients
  - Determine possibility for new products launch

國科會補助計畫衍生研發成果推廣資料表

日期:2011/07/08

國科會補助計畫	計畫名稱: 科技不確定性與機會主義：關係治理機制節制效果之檢驗
	計畫主持人: 唐瓔璋
	計畫編號: 99-2410-H-009-028- 學門領域: 行銷

無研發成果推廣資料

99 年度專題研究計畫研究成果彙整表

計畫主持人：唐瓔璋	計畫編號：99-2410-H-009-028-
計畫名稱：科技不確定性與機會主義：關係治理機制節制效果之檢驗	

成果項目			量化			單位	備註（質化說明：如數個計畫共同成果、成果列為該期刊之封面故事...等）
			實際已達成數（被接受或已發表）	預期總達成數(含實際已達成數)	本計畫實際貢獻百分比		
國內	論文著作	期刊論文	2	0	80%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	1	0	80%		
		專書	0	0	100%		
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（本國籍）	碩士生	0	0	100%	人次	
		博士生	2	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		
國外	論文著作	期刊論文	0	0	100%	篇	
		研究報告/技術報告	0	0	100%		
		研討會論文	1	0	100%		
		專書	0	0	100%	章/本	
	專利	申請中件數	0	0	100%	件	
		已獲得件數	0	0	100%		
	技術移轉	件數	0	0	100%	件	
		權利金	0	0	100%	千元	
	參與計畫人力（外國籍）	碩士生	0	0	100%	人次	
		博士生	0	0	100%		
		博士後研究員	0	0	100%		
		專任助理	0	0	100%		

其他成果 (無法以量化表達之成果如辦理學術活動、獲得獎項、重要國際合作、研究成果國際影響力及其他協助產業技術發展之具體效益事項等，請以文字敘述填列。)	無

	成果項目	量化	名稱或內容性質簡述
科教處計畫加填項目	測驗工具(含質性與量性)	0	
	課程/模組	0	
	電腦及網路系統或工具	0	
	教材	0	
	舉辦之活動/競賽	0	
	研討會/工作坊	0	
	電子報、網站	0	
	計畫成果推廣之參與（閱聽）人數	0	

國科會補助專題研究計畫成果報告自評表

請就研究內容與原計畫相符程度、達成預期目標情況、研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）、是否適合在學術期刊發表或申請專利、主要發現或其他有關價值等，作一綜合評估。

1. 請就研究內容與原計畫相符程度、達成預期目標情況作一綜合評估

■達成目標

□未達成目標（請說明，以 100 字為限）

□實驗失敗

□因故實驗中斷

□其他原因

說明：

2. 研究成果在學術期刊發表或申請專利等情形：

論文：■已發表 □未發表之文稿 □撰寫中 □無

專利：□已獲得 □申請中 ■無

技轉：□已技轉 □洽談中 ■無

其他：(以 100 字為限)

英文初稿已被「國際創新與管理」(ICIM) 研討會接受， 未來完稿預計投 Journal of Business and Industrial Marketing。

3. 請依學術成就、技術創新、社會影響等方面，評估研究成果之學術或應用價值（簡要敘述成果所代表之意義、價值、影響或進一步發展之可能性）(以 500 字為限）

工業購買行為中，採購成本通常佔總成本的最大宗，對企業之經營成效具有關鍵性影響，上游供應商和下游製造業者雙方皆會期望建立長期合作關係，但企業之間的交易活動，往往因為資訊不對稱與鎖入效應，促使交易的一方

產生投機行為，即所謂的機會主義；為了抑制機會主義，除了透過垂直整合，將交易成本降至最低、促進交易的效率之外，亦有其他可行的治理機制，包含監督、供應商專屬性投資，以及關係規範等。隨著大陸經濟改革與制度開

放，加上台灣和大陸語言隔閡低，吸引許多台商赴大陸投資，除了中小企業至大陸尋求新的契機，大型企業亦將其視為全球化佈局的重要據點；在世界工廠逐漸移向中國的同時，大陸及台灣的交流也愈來愈普遍，本篇綜合研究

大中國地區(大陸、香港和台灣)的交易決策模式，針對大中國區的連接器與晶片廠商，對於治理機制作整體性的實證檢驗。本文主要立據為只有監督這項機制才稍微具備抑制機會主義的能力；相反地，關係規範反而是最容易促

使機會主義發生的機制。可見在技術變化快速的產業，以及講究關係的文化中，良好的關係反而提供了更多投機取巧的機會。本研究所提之理論，和過去西方的文獻與研究結果大相逕庭，期針對供應商的管理議題，為中、港、

台三地的廠商提出不同的觀點。因此，本研究在理論與應用上皆具價值。