

Strategy and Structure in a Virtual organization

Submitted by:

**Nazim U. Ahmed
Sushil S. Sharma**

**Information Systems Operations Management Department
Ball State University
Muncie, IN 47303**

Strategy and structure in a Virtual organization

Abstract

A virtual organization is a network of companies which support each other around a product and or a service idea. The companies in the network should be seamlessly integrated by information and communication technologies so that to the customer it is not apparent that the different processes are handled by separate companies. With the availability of internet and other communication technologies a VO is a viable option for many innovative entrepreneurs. This paper deals with some strategy and structural issues in a VO. First a VO should have a product strategy and should focus on competitive priorities such as cost, quality, time, flexibility. The structural issues deal with selecting VO partners, understanding communication requirements and developing an e-infrastructure.

1. Introduction

A virtual organization (VO) is an alliance of companies formed for the purpose of delivering specific products/and or services. The company who is responsible for the products and services may be called the "core" company. The core company is linked together by ICT(information and communication technologies) with other companies called "satellite" companies or VO partners. Core company and satellite companies share information, resources and skills in a seamless way so that the core company can deliver products and services to the customer and can create an impression to the customer that they have control over every aspect of the business process. With the availability and ubiquitous nature of networked based information technology , a company's business processes theoretically can span across the entire globe. Opportunity exists for organizations to deliver goods and services to the customer efficiently without the need to have physical control and ownership of many of the businesses processes. So the viability of VO's is a present reality rather than a distant possibility.

Nature of a VO varies in terms of its longevity and complexity. Figure 1. depicts several types of VO from very transient to somewhat permanent. A virtual corporation may arise out of some interesting product and/or service idea. The originator of this product and/or service idea may succeed to actually market the product through entrepreneurial initiative using the virtual organization framework. Over time a successful VO may achieve some sort of permanency and may grow to be a traditional company.

Figure 1: Typology of virtual organizations(Palmer, J& Speier, C. 2001)

	Virtual team	Virtual Project	Temporary VO	Permanent VO
Range of Involvement	Within one Department	Across functions and organizations	Across organizations	Across Organizations
Membership	Small, local	Intermediate	Typically large	Smaller but scaleable
Mission	Specific on going tasks	Multiple organizational representative working on specific project	Multiple functions responding to a market opportunity	All functions and full functionality as a working organization
Length of project	Membership varies, but form is permanent	Temporary	Temporary	Permanent
Uses of IT	Connectivity, sharing embedded knowledge(e-mail), groupware	Repository of shared data(databases, groupware)	Shared infrastructure(groupware, WANs, remote computing)	Channel for marketing and distribution, replacing physical infrastructure(web, groupware, WANs)

An Example of a Virtual Company

A toy company has an office in Manhattan, New York with five people responsible for co-ordination of the business processes which are the following:

- 1) For toy design a contract has been signed with a design company in Bangalore, India.
- 2) A manufacturing company in Shanghai, China has been contracted for manufacturing the toy.

- 3) A shipping company in U.S. has been contracted to ship the toys to U.S.
- 4) A warehousing company in U.S. is contracted to warehouse the toys in U.S.
- 5) A retail outlet like Toys’Rus contracted for retailing the product.
- 6) Online-outlet like EBAY contracted for selling the toy online
- 7) Bill payment is contracted with Pay-pal
- 8) Company also sells through it’s own online sales outlet
- 9) Customer service for trouble shooting is contracted with a Call center company in Bangalore, India.
- 10) Customer service for warranty, return, repair etc. has been contracted with a company in Los Angeles
- 11) A law firm in Minneapolis is contracted to handle legal and compliance matters
- 12) An accounting firm in Indianapolis is retained for billing, accounts payable and taxation.
- 13) A software services company in New York is contracted to update and maintain website
- 14) An advertising company in New York is contracted for advertising in TV and other children’s Magazine

The research on virtual companies can be categorized roughly into three broad categories: 1) the conceptual description and definition, 2) empirical studies, 3) issues related to managerial implications.

The concept of virtual organization was evolving in the early 90’s as the internet and e-commerce was gaining momentum (Barnatt, 1995; Flaig, 1992). Davidow and Malone(1992) described virtual corporation as “edgeless, permeable and continuously

changing interfaces, among company , supplier and customer“. Blau(1997) Concluded that virtual company has little need for physical capital and can be formed anywhere around a market opportunity by deploying intellectual capital and forming alliances based on core competencies of some existing companies. Goldman et al (1995) defined VO's as one where, complementary resources exist in several companies which can be profitability utilized by sharing with others. Expert talent is recruited for the duration of the project and profit is shared among the companies.

Some recent empirical studies concluded that the many advantages of virtual organizations include flexibility, responsiveness, improved resource utilization in ever changing global business environment (Grabowski and Roberts, 1998; Jarvenpaa and Leidner, 1998; Raghuram and Garud, 1998; Cascio, 1999; McDonough, Kahn and Barczak, 2001). Researchers also concluded there are several disadvantages such as low individual commitment, role overload, role ambiguity, absenteeism, customers find a lack of permanency, consistency and reliability in virtual firms (Jarvenpaa and Leidner, 1998; Cascio, 1999)

Snow et al. (1999) suggested that lack of influence and autonomy for the members may be a barrier to the functioning of virtual organizations. They also suggested that lack of human communication, inertia to change, and complexity of still evolving information and communication technologies and cultural differences can affect the performance of virtual organizations. Some authors suggest that virtual organizations may not be suitable for all businesses. Ahuja and Carley (1998) expertise and competence based tasks which is communication intensive can utilize distributed resources to form a virtual organization..

It may not be easy for the start-up virtual company to stay competitive in the market place. There are so many competitive forces working in a business environment, it is even hard for a regular company which has all the functional areas within itself to stay competitive. We see even big corporations becoming stagnant and losing market share for failing to come up with right product and services that will be competitive in the market place. The strategy of being competitive is an ongoing effort. As the product life-cycle shortens, it is imperative that a company must always be on it's guard to bring out the right product at the right time to hold and build market share. So If a start up VO wants to mature to a permanent VO should focus on right strategy and structure and continuously update it's strategy and structure. This paper investigates some structural and strategy related issues in a VO.

2. VO Strategy

In a traditional organization , strategy selection and formulation process involves first formulating the firm's corporate strategy by analyzing:

- customers
- core competencies, which include workforce, facilities, market and financial know-how, systems and technology.
- The firm also has to evaluate the changing nature of business environment especially the competitor's strength.

After analyzing the above items the firm comes up with it's corporate strategy. Then the corporate strategy is exploded into functional area strategies for functions such as operations, marketing, finance, accounting. For example if an US auto company decides to go for Chinese market as a part of their corporate strategy, the operations function

should design cars specific to that market. Also, they may have to find suppliers in China or setup plants there. Marketing department may have to find a Chinese auto dealership to market their car. Finance department may have to raise money from Chinese banks or investment companies.

For a VO which is usually resource constrained, strategy selection may not be that complicated. The basic strategy selection process for VO may be two step decisions. First and foremost, a VO to succeed must have a good product strategy. Then they have to also decide about their competitive priority. Once the product strategy and competitive priorities are decided, then the VO can deal with structure and infrastructure issues

The firm also has to evaluate the changing nature of business environment especially the competitor's strength. For a VO, a traditional core competency may not exist in the sense that a VO may lack most of the functional components such as design, sales/marketing, manufacturing, distribution and so on. To setup their corporate strategy they have to rely on the core competencies of the companies in the network.

2.1 Product Strategy

Here in this article our focus is on a company which will actually come up with an actual product or service idea and then market and sell the product to the customers. There are a host of companies which sells products and services from other companies using internet. An example will be a phone card company which sells phone different phone cards through their websites. We would not consider them as VO for our purpose as they do not sell their own products.

Understanding customer demand is the first step in formulating the firm strategy. For an established traditional company the customer base is already there, however, for a

VO the customers are usually new. A VO has to spend a lot of time trying to understand the nature of customer demand and also viability of the product.

For developing a corporate strategy, a traditional firm will look at its core competencies in terms of workforce, facilities, market and financial know-how, systems and technology to evaluate whether a certain firm strategy is in line with its capabilities.

For a VO, a traditional core competency may not exist in the sense that a VO may lack most of the functional components such as design, sales/marketing, manufacturing, distribution and so on. To setup their company strategy they have to rely on the core competencies of the companies in the network. So it is imperative that the Core company understands the relevant capabilities of the satellite companies. If the core company and the satellite companies do not have established relationship already then the core company should try to get as much information about them using whatever sources available.

The main impetus for a VO is the product idea. If one comes up with a brilliant product idea, the next thing is to make that idea succeed. If the product idea is promising, one may investigate into the possibility of using or forming a VO around the product idea. The product idea needs to be thoroughly evaluated analyzing all the related aspects. For a traditional company the feasibility of a product is evaluated by analyzing markets, competition, pricing etc. assuming that operational and supply chain issues will be handled by the organizations and its suppliers and distributors. However, for a VO, apart from analyzing marketability, competition etc., the operational issues such as marketing, manufacturing, sales, distribution issues should also have to be evaluated.

It may be advisable to come up with a product and or service idea which is not complex. For example, if one has to produce a new automobile or cell phone or a lawn mower, the degree of complexity in manufacturing, distributing and servicing the products could probably render a VO not an attractive option.

Here are some strategies for product selection for a startup VO:

1) Products/service itself should be innovative but not complex.

The product should be such that there will be a demand for it and at the same time in terms of complexity, the manufacturing and after sales service etc. should be easy to manage. An example of this may be a VO which wants to sell tailor made clothing. They can setup a web-site where they may advertise different kinds of clothing products, including design, style, coloring etc. For each product, there should be clear-cut instructions as to how to make measurements. The customers can select the design, color and give their measurements and find out the price. Once the order has been received, the order will go to a tailoring company in Thailand. When the order will be done it will be sent to a distribution company in U.S. The orders will be shipped by the distribution company to the customers. Complaints will be handled by a customer service company and if there is any re-do it will be handled by a tailoring company inside U.S.A

2) Concurrent engineering approach should be used for product selection and

The idea of concurrent engineering is that all the aspects of manufacturing, supplier issues, pricing, etc. should be resolved while the product is being designed. In a traditional company it is easy to team up with people from different functional area because they all belong to the same organization and all have stake in the company. However, concurrent engineering is not as easy in VO setting. Never the less it is very

important to sort out details before the product is selected. It is important that the core company has interactions and communication with the entire all the satellite company's which will be ultimately involved in different processes in the supply chain for delivering the product to the customers.

2.2 Competitive priorities

Competitive priorities are critical dimension that a process or value chain must focus on to satisfy both the current and future customers. There are four basic competitive priorities:

Cost

In most business environment cost is the important competitive priority as lowering price will facilitate gaining customers and increasing market share. To reduce cost, operations strategy should focus on achieving efficiency by redesigning the product, reengineering the processes, addressing supply chain issues and exploring global opportunities.

Quality

Competing on the basis of quality imply that company wants to sell products and services to a niche market. For example, a small private airline has a fleet of luxury planes to serve corporate CEOs. If a company uses quality as a competitive priority, then it should focus on two aspects of quality 1): Top quality and 2) Consistent quality.

Top quality is those characteristics of a product and or service that create an impression of superiority. This may need superior product with grater tolerances, demanding requirements, high aesthetics and personal attention. Consistent quality is producing products and or services which meet customer requirement and expectations on continual

basis. For example, a luxury private airline will be always punctual in picking up the clients, flying the plane and arriving at the destination.

Time

For many firms time is a competitive priority. Especially as the product life-cycle is becoming short it is imperative to bring out products and service ahead of your competition. There are three approaches to time-based competition, 1) delivery speed, 2) On-time delivery and 3) development speed

Delivery speed is how quick a customer's order can be filled. The time between the receipt of a customer's order and the filling it is called lead time. To compete on delivery speed one must try to design the order fulfillment process so that the lead time can be reduced. Sometimes companies may keep inventory or cushion or back-up capacities to compete on delivery speed.

On-time delivery is meeting the promised schedule. This could be important for an airline. Also it is important for customers who are working on Just-in-time inventory basis

Development speed is important for those companies where it is important to bring in new products or new version of products before the competition. For example Intel and AMD use this competitive priority. Whoever can introduce the newest computer chip in the market gains market share.

Flexibility

Competitive priority based on flexibility allows a company to react to changing customer needs quickly and efficiently. A company may compete based on flexibility

using one or more of the following strategies, 1) customization, 2) Variety, 3) Volume flexibility.

Customization is catering to individual customers needs. For example a custom home builder builds different houses for different customers. Customization generally implies that the products and or service are produced in low volume and has a higher degree of complexity. This requires that organization has people have higher skills and should be able to work closely with customers.

Variety is producing products and or services with wide array of choices. Variety is different from customization, in the sense that customization is unique to each customer, while variety could entail different features in the product but the product is not unique.

Volume flexibility is ability to produce in smaller or larger volumes within the confines of production parameters. The companies who use volume flexibility as a competitive priority must design their processes so that set-up cost is minimal.

Selecting Competitive Priority

Strategy selection process would dictate the firm strategy that will drive firm's effort in the areas of product design, process design, supply chain management and customer relationship process. Strategy selection would also include selecting a competitive priority which later is used design the structure of the VO.

For example, if the VO wants to compete on the basis of cost, then all the satellite company strategy will have to use processes which will minimize cost at the same time providing implied quality. Or else, if the competitive priority selected is superior quality,

then the companies in the VO network should gear their processes to provide superior quality and cost may not be the major consideration.

3. Structural Design Issues

To be successful a VO should have all the responsibilities and attributes of a traditional company from customer point of view. For an ideal VO customer should not be able to know or at the very least feel inconvenienced by the fact that different processes such as order entry, billing, customer service and support are handled by different companies. So for a VO design seamless integration of the partner companies is very important. This integration has two major aspects. First, there is a need for technological integration so that all the companies in the network can work as one entity. Second, for management purposes there should be interaction among people from the companies in the network so that all the management issues can be handled effectively and promptly. For a successful design of a VO, the following issues should be considered: 1) Selection of VO partners; 2) Understanding the nature of communication requirements; 3) Developing E- infrastructure; 4) Simulation and trial run

3.1 Selecting VO Partners

Once the core company has decided about the product and or service, and the competitive priority, the next step is to form the VO. It was mentioned earlier that, the product strategy should involve concurrent engineering, which means that the potential partners in the network should have input in the very beginning of the venture. However, it may

be very much likely that, these relationships may be informal. Now is the time to select the partners in the network and design and work out the details of this partnership.

One of the driving forces for selecting VO partners is the competitive priority of the core company. If the core company selects cost as it's core competency, the VO partners should have a similar competitive priority. That means that their processes should be geared towards providing cost savings maintaining expected quality. If the competitive priority is flexibility, the VO partners should have the similar competitive priority and their processes are developed to accommodate variety and customizations.

Once, the issues of matching competitive priorities are resolved, a VO partner should be evaluated based on some other performance criteria such as: 1) capability; 2) reputation; 3) Reliability; 4) cost; 5) Technology integration; 6) Experience as a VO partner.

A VO partner should have the required capability in it's area of expertise. For example, a customer service company should have all the resources and people and expertise and technical know to provide customer support. Reputation of the company is very important. If the company does not have good reputation, which means one can expect trouble down the road. A VO partner should be reliable in the sense that it should repeatedly and consistently provide quality performance. For anew VO it is probably hard to judge the reliability of the partners. Some of the information may be obtained from secondary sources using internet resources. Cost can also be an important factor for selecting a VO partner, It is not true that one has to select the lowest cost partner, on the other hand negotiation for cost and prices should be done to the mutual benefits of the core company and the VO partners.

Technology integration is an important issue in selecting VO partners. It is imperative that most of the companies now have access to internet and e-mails. Apart from these basic technologies, A VO may need other knowledge management technologies such as: virtual reality, portals, Extensive markup language(XML), personal devices, intranets and extranets etc. It is also important that all the appropriate technologies are seamlessly integrated across the VO so the customer will not have any idea that the VO is a combination of several organizations. So it is important to understand the technology integration issues before selecting a VO partner. Last but not the least, if a company has already have experienced as a VO, then the implementation issues can be taken care of easily.

3.2 Understanding the nature of communication requirements

To develop the e-infrastructure, it is important to understand the nature of communications between different entities in the VO. This not only includes the VO partners, but also the customer. Table 1 inventories the nature of communication between different entities such as customers, marketing sales, production/operations, accounting and billing and maintenance and customer support. The core company is called the hub company. For, example the nature of communications between the customer and the hub company may be through phone, e-mail and company web-site. There will be probably no communication between customer and production and operations company. The nature of communications between hub company and marketing and sales company may be face-to-face, e-mail, video, work group and phone.

Table 1 Nature of Communication

Entities	Customer	Hub Company	Marketing and Sales Company	Productions/ Operations Company	Accounting and Billing Company	Maintenance and Customer Support
Customer	Remote Information Exchange	Phone e-mail Portal	Phone e-mail mobile	No communication	Phone e-mail Mobile	Phone e-mail Mobile
Hub Company		E-mail Face-to Face Phone Work Group	Face-to face e-mail, Video, Work group Phone	Face-to face e-mail, Video, Work group Phone	Face-to face e-mail, Video, Work group Phone	Face-to face e-mail, Video, Work group Phone
Marketing and Sales Company			Phone E-mail	e-mail, Video, Work group Phone	E-mail Phone	E-mail Phone
Productions/Operations Company				Phone E-mail	Phone E-mail	Phone E-mail
Accounting and Billing Company					Phone E-mail	Phone E-mail
Maintenance and Customer Support Company						Phone E-mail

3.3 Creating E-infrastructure.

Once communications requirements between the different entities in the network is established, the next step is to map appropriate information and communication

Table 2. Mapping Information and Communication Technology

Entities	Customer	Hub Company	Marketing and Sales Company	Productions/ Operations Company	Accounting and Billing Company	Maintenance and Customer Support
Customer	Online Blog Portal	Portal Phone Mobile technology Internet	Phone Mobile technology Internet Portal	No communication	Phone Mobile technology Internet	Phone Mobile technology Internet
Hub Company		Electronic Meeting Room, Phone, Internet, Intranet	Electronic Meeting Room, Phone, Internet, Intranet, Portal	Electronic Meeting Room, Phone, Internet, Intranet, Portal	Electronic Meeting Room, Phone, Internet, Intranet, Portal	Electronic Meeting Room, Phone, Internet, Intranet, Portal
Marketing and Sales Company			Intranet Phone E-mail	Electronic Meeting Room, Phone, Internet, Intranet, Portal	Electronic Meeting Room, Phone, Internet, Intranet, Portal	Internet Phone
Productions/ Operations Company					Phone Internet	Phone Internet
Accounting and Billing Company					Phone Intranet	Phone Internet
Maintenance and Customer Support Company						Phone Intranet

technology to support those requirements. Table 2. shows the information and communication technologies required to support different communication interfaces. Communications between a customer and other customers can be facilitated by online blog or company portal. Communications between hub company and the marketing and sales company can be accomplished by electronic meeting room, phone, internet, intranet, portal for both the companies. Apart from phone, many of the common information and communication technologies such as internet, intranet, video conferencing, portal may already exist among the VO partners. Some other technologies such as electronic meeting room and video conferencing may not be available to some of the partners. So it may be necessary to negotiate cost and other managerial and technical issues which are relevant for use of those technologies.

3.3 Simulation and trial run

To have a better understanding of how the whole VO works, a simulation may be performed incorporating all the processes starting from placing a customer order, billing process, communicating the information to the operations company, making a prototype, shipping the prototype to the distribution company, sending the product to the customer, handling customer complaints for billing, handling customer returns and so on. Before the trial run or simulation it is important to devise a performance matrix for all the important processes. Table 3. shows example of some of the performance criteria for different processes. All of the performance criteria may not be evaluated during the simulation. The ones which could be evaluated, such as time between order and delivery,

Table 3. Performance criteria for important processes

<p>Marketing and Sales and Customer relationship process</p>	<p>Percent of wrong orders Time between order and delivery Percent of delayed order Time to take an order Time to re-do</p>
<p>Productions and Operations</p>	<p>Production lead time Percent of returned order Percent of re-do</p>
<p>Accounting and Billing</p>	<p>Percent of wrong billing Time for refund</p>
<p>Maintenance and customer support</p>	<p>Time to answer customer complaints Percent of customers complaining Types of customer complaint</p>

production lead time, time to answer customer complaint, time for refund etc. may generate valuable information which will help in redesigning the processes.

4.0 Conclusion

Rapid advancement, availability and affordability of internet-based technologies have changed the way the companies do business to stay competitive. Rapid growth of e-commerce and the disappearance of physical boundaries have enabled the emergence of virtual organizations from a “futuristic “ concept to reality. Virtual organizations consist of independent companies networked together for providing product and services to the customer on behalf of the core company.

VO provides entrepreneurial opportunities for a company with limited resources. However, the implementation of a VO has a lot of challenges which must be overcome. In this paper we have discussed issues related to strategy and structure for a VO. Main focus of

a VO should be the product strategy. Also, a product strategy should be established in conjunction with competitive priority such as cost, quality, time and flexibility. The competitive priority is important for designing important processes in the VO. For example, if a VO chooses to focus on the competitive priority of cost, then the VO partners should design their processes to be cost efficient at the same time maintaining expected quality.

Structural design issues for a VO includes selecting the VO partners, understanding the communication requirements, mapping the information and communication technology and simulating the processes. Simulation of the VO may resolve some technical and managerial issues before the actual operation and enable the company to achieve customer satisfaction from the very start.

5.0 References

Ahuja, M.K. and Carley, K.M. (1998) “network structure in virtual organizations,” *Journal of Computer-mediated Communication*, Vol. 3, No. 4, pp. 1-14

Ayres, James B. (1993) “TQM and information technology: Partners for profit,” *Information Strategy*, Vol. 9, pp.26-31.

Barnatt, C. (1995) “Office space, cyberspace and virtual organizations,” *Journal of General Management*, Vol. 21, No. 4, pp. 78-91.

Blau, J. (1997) “Global networking process management challenges ,” *Technology Management*, Vol. 40. No. 1, pp. 4-5.

Cascio, W.F. (1999) “Virtual work places: Implications for organizational behavior,” In C.L. Cooper and D.M. Rousseau(Eds.), *The Virtual Organization. Trends in Organizational Behavior*, Vol. 6, Pp. 1-14.

Chalk, M. Beth.(1993) “Implementing Total Quality within corporate real estate,” *Site Selection and Industrial Development*, Vol.38, pp. 433-436

Davidow, W. H. , Malone, M.S. (1992) *The Virtual Corporation. Structuring and revitalizing the corporation for the 21st century*, Harper Business Inc., New York

Drefus, L. Paul, Sanjay L. Ahire, Maling, Ebrahampour (2004) “The Impact of Just-In-Time Implementation and ISO 9000 Certification on Total Quality Management,” *IEEE Transactions on Engineering Management*, Vol. 51 No. 2, pp.125-141.

Flaig, S. (1992) “Virtual enterprise: Your new model for success,” *Electronic Business*, March 1992, pp. 153-55

Garvin, David A. (1987) “Competing on the eight dimensions of quality,” *Harvard Business Review*, November, pp. 101-109.

Goldman, S. Nagel, R. Preiss, K. (1995) *Competitors and Virtual Organizations*, Van Nostrand Reinhold Inc., New York.

Grabowski, M. and Roberts, K.H. (1988) “Risk mitigation in virtual organizations,” *Journal of Computer-mediated Communication*, Vol. 3, No. 4, pp. 49-65.

Jarvenpaa, S.L., and Leidner, D.E. (1998) “Communication and trust in global teams,” *Journal of Computer-mediated Communication*, Vol. 3, No. 4, pp. 18-37

Mathers, Hall (1991) "Don't just satisfy, delight your customers," *Apics –The Performance Advantage*, August, 1991, pp. 22-25.

McDonough III, E.F., Kahn, K.B. and Barczak, G. (2001) "An investigation of the use of global, virtual, and collocated new product development teams," *The Journal of Product Innovation Management*, Vol. 18, No. 2, pp. 110-120.

Rooney, Charles (1990) "Successfully implementing TQM," *American Paint and Coating Journal*, Vol. 74, PP. 36-40.

Ross, Joel E. (1993) *Total Quality Management: Text, Cases and Readings*, St. Lucie Press, Delray Beach, Florida

Scoenberger, Richard J. (1992) "Is strategy strategic? Impact of Total quality management on strategy," *Academy of Management Executive*, Vol., No. 1, pp. 80-87

Snow, C.C., Lipnack, J., and Stamps, J. (1999) "The virtual organization: promises and pay-offs, large and small," In C.L. Cooper and D.M. Rousseau(Eds.), *The Virtual Organization. Trends in Organizational Behavior*, Vol. 6, pp. 15-30.

Vansina, Leopold s. (1990) "Total quality control: An overall organizational improvement strategy," *National Productivity Review*, Winter 1990, pp. 59-74.