*B. Kogut**

A Study of the Life Cycle of Joint Ventures**

Joint ventures, like any organization, undergo a cycle of creation, institutionalization, and, with high probability, termination. The additional complexity of a joint venture is that its creation is the product of two or a few existing organizations which, by right of equity ownership, jointly – though not necessarily equally – may exercise control. Of course, if the partners had non-conflicting goals, the management dilemma of a joint venture would be no greater than the problems inherent in any subsidiary to corporate headquarters relationship. But joint ventures are often, though not exclusively, created due to competitive motives, either between the partners or relative to other firms. Herein lies the irony, namely, that the competitive conditions which incite the creation of a joint venture are also responsible for its termination.

The relationship between the motivations to create and to terminate implies the need to analyze issues of stability from the perspective of the life cycle of a joint venture. Recent work in organizational theory has shown, for example, that the early history of an organization molds the patterns of behavior into relatively inert institutional structures.[1] Similarly, the motivations of the partners to cooperate mold the institutional structure of the joint venture and influence their future behavior.

This article seeks to develop a few theoretical perspectives on the creation and termination of joint ventures. Section one describes three theories of joint ventures from the perspectives of transaction cost economics, strategic behavior, and organizational ecology. In section two, data on the mortality of joint vertures is presented. The subsequent section reviews and tests a few hypotheses from the literature. In section three, a case history of an international joint venture is analyzed from the perspectives of the three theories. The final section presents a set of conclusions.

I. Descriptive Statistics of Joint Venture Mortality

Because there has been little cross-sectional research on mortality rates of joint ventures over time, this section reports mortality rates according to age, function, industry, and country. Information on joint verntures was taken from the publication *Mergers and Acquisitions*. A questionnaire was sent to one of the parents of 475 joint ventures. Despite a response rate of 55.5%, only 148 questionnaires were useable due to either refusal to give pertinent information, the decision not to invest following the published announcement, or a misclassification of non-equity contracts as a joint venture. Only ventures located in the United States were used so as to eliminate the effects of government regulations in other parts of the world. A domestic venture is between only American partners; an international venture includes at least one non-American firms. By looking only at ventures located in the United States, differences in business and political conditions can be eliminated as influences on stability.

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* *Professor Bruce Kogut, Assistant Professor, Wharton School, Philadelphia, U.S.A.* *Manuscript received March 1987.*

As seen in Table 1, instability rates peak in years 5 and 6 for the sample of all joint ventures, though this trend is more pronounced for international ventures. Rates of termination by acquisition (whether by the partners or a third firm) appear slightly more stable than those by dissolution. Studies on business failure rates, in general, show dissolution rates to be roughly 10 percent a year for small start-ups (Reynolds, 1987). While the mortality rates are not much different than what we find for joint ventures, the difference is that these ventures are started and owned by existing firms with the requisite financial resources.

Table 1: Hazard Rates for Joint Ventures by Acquisition and Dissolution as a Percentage of Those at Risk

Age	1	2	3	4	5	6	>6
Domestic JointVentures							
Terminated	5.6	13.5	5.1	12.7	10.4	8.3	25.9
Dissolved	4.2	7.5	1.7	3.6	10.4	5.6	14.8
Acquierd	1.4	6.0	3.4	9.1	0.0	2.7	11.1
International Joint Ventures							
Terminated	3.9	5.4	10.8	4.2	20.0	24.0	12.6
Dissolved	2.6	2.7	3.1	2.1	14.3	12.0	6.3
Acquired	1.3	2.7	7.7	2.1	5.7	12.0	6.3
Both International and Domestic Joint Ventures							
Terminated	4.7	9.3	8.1	8.7	14.7	14.8	20.9
Dissolved	3.4	5.0	2.4	2.9	12.0	8.2	11.6
Acquired	1.3	4.3	5.7	5.8	2.4	6.6	9.3

In Table 2, mortality rates are lowest for production, financial service, and development of new products. However, statistical tests which correct for the age of the venture show only that ventures which include marketing and after-sales service have significantly higher mortality rates. (The nature of these tests is described in the next section.) What is particularly interesting is the difference in how ventures terminate according to function. Development of new products shows a higher rate of dissolution over acquisition, which makes sense given the risk attached to development. But development of existing products shows a tendency to terminate by acquisition, presumably because the development risk is lower and partners may differ in their valuations placed on the product.
In Table 3, mortality rates are given for ventures by industry membership, as defined by SIC codes. Because of the lower number of cases in some industries, it is difficult to infer mortality trends. However, when the ventures are aggregated into services, manufacturing, and resources, the statistical tests show a significantly higher mortality rate for services.

Table 2: Mortality Rates by Function

	Total		Alive		Dissolved	
	#	%	#	%	#	%
Research	7	4.7	3	42.9	4	57.1
Development of Exisiting Products	28	18.9	15	53.6	5	17.9
Development of New Products	50	33.4	30	60.0	12	24.0
Production	69	46.6	40	58.0	16	23.2
Marketing and Service	72	48.6	37	51.4	19	26.4
Financial Service	10	6.8	6	60.0	4	40.0
Natural Resource Development	24	16.2	12	50.0	8	33.3

Table 4 presents data by country. Again, it is important to caution against inferences without controlling for age. The Japanese joint ventures tend to be younger, which explains why the statistical tests do not show a significantly higher probability of termination. Interestingly, the Japanese ventures show a higher rate of termination by acquisition than the total sample. Of these six acquisitions, five were by the Japanese partner.[2] When grouping the ventures into international and domestic, the tests show a higher probability of termination for international ventures, when correcting for age effects.

II. Theoretical Explanations

The central thesis of this chapter is that the causes for the termination of a joint venture frequently lie in those causes responsible for its creation. There are many possible explanations for joint ventures.[3] Many of these explanations, however, are variants of three theoretical perspectives, namely, transaction costs, strategic behavior, and organizational behavior. Though all three of these are complementary, they differ also in important ways.

Transaction cost economics has been developed by a number of scholars (Buckley and Casson, Hennart, and Teece) working on the question of what determines the boundary of the firm. The most influential statement of transaction cost economics is associated with Williamson (1975,1985). His argument is that institutional design reflects efforts to *minimize* the sum of production and transaction costs. Production costs are simply the costs usually associated with the transformation process, namely, the costs of inputs, the degree of scale economies, the efficiency of the productive technology. Transactions costs are less well specified, but represent the costs of monitoring efforts, of investing in ways to bond performance, and of cheating. Since it is difficult to observe these costs, Williamson proposes instead to focus on the conditions which are likely lead to

Table 3: Mortality Rates by Industry

	Total		Alive		Dissolved.		Acquired	
	#	%	#	%	#	%	#	%
Resources	19	12.8	10	52.6	7	36.8	2	10.5
Paper and Allied Products	4	2.7	3	75.0	1	25.0	0	0.0
Chemicals and Allied Products	27	18.2	16	59.3	6	22.2	5	18.5
Petroleum and Coal Products	4	2.7	1	25.0	2	50.0	1	25.0
Rubber and Miscellaneous Plastic Products	3	2.0	2	66.7	0	0.0	1	33.3
Primary Metal Industries	7	4.7	3	42.9	0	0.0	4	57.1
Fabricated Metal Products	4	2.7	3	75.0	0	0.0	1	25.0
Machinery, Except Electrical	18	12.2	12	66.7	2	11.1	4	22.2
Electric and Electronic Equipment	16	10.8	11	68.8	4	25.0	1	6.3
Transportation Equipment	4	2.7	2	50.0	1	25.0	1	25.0
Instruments and Related Products	6	4.1	2	33.3	3	50.0	1	16.7
Other Manufacturing Industries	7	4.7	2	28.6	1	14.3	4	57.1
Comunications	3	2.0	1	33.3	0	0.0	2	66.7
Utilities	3	2.0	1	33.3	2	66.7	0	0.0
Wholesale Trade	2	1.4	2	10.0	0	0.0	0	0.0
Financial Services	9	6.0	2	22.2	6	66.7	1	11.1
Real Estate Construction	5	3.4	4	80.0	1	20.0	0	0.0
Other Services	7	4.7	3	42.9	2	28.6	2	28.6
Total	148	99.9	80	54.1	38	25.7	30	20.2

high transaction costs. He lists three: asset specificity (or the degree to which assets are dedicated to transacting with a particular economic partner, uncertainty (which represents the difficulty of predicting and observing cheating), and frequency (which influences whether there is sufficient volume to justify a fixed investment in establishing an organizational solution). All of these conditions are necessary; none are sufficient.

Table 4: Mortality Rates by Country

	Total		Alive		Dissolved		Acquired	
	#	%	#	%	#	%	#	%
United States	70	47.3	33	47.1	22	31.4	15	21.4
Britain	9	6.1	4	44.4	2	22.2	3	33.3
Japan	23	15.5	15	65.2	2	8.7	6	26.1
Scandinavia*	8	5.4	4	50.0	4	50.0	0	0.0
Switzerland	3	2.0	1	33.3	1	33.3	1	33.3
Germany	10	6.8	7	70.0	1	10.0	2	20.0
France	4	2.7	1	25.0	3	75.0	0	0.0
Netherlands	3	2.0	3	100.0	0	0.0	0	0.0
Belguim	5	3.4	3	60.0	1	20.0	1	20.0
Malaysia	1	0.7	1	100.0	0	0.0	0	0.0
Canada	12	8.1	8	66.7	2	16.7	2	16.7
Total	148	100.0	80	54.1	38	25.7	30	20.2

There have been few attempts to extend transaction costs to joint ventures, with the notable exception of Stuckey (1983), Hennart (1986) and Buckley and Casson (1986). One approach is to analyze what are the unique organizational properties of a joint venture and to what transaction hazards are they addressed. What sets a joint venture apart from other institutions is that the parties share ownership of the assets and derived revenues and thus share monitoring and control rights, which even if not exercised are still valuable. There are, thus, two issues: one, joint investment in ownership and, two, control and monitoring rights. Joint investment addresses the issue of creating incentives to perform, for what better incentive than requiring both parties to put up the capital or capitalized assets? Joint investment is, thus, a form of *mutual hostage positions* which mitigate the incentives to shirk or to behave contrary to fiduciary responsibility.[4] Along with ownership comes the right to monitor and control, though how much and to what extent is frequently the subject of negotiation. Of cource, complete ownership also provides these benefits, but due to obstacles to merger and to differentiated abilities among the partners, both parties are forced to venture outside (Buckley and Casson, 1986).

Unlike transaction cost theory, strategic behavior explanations rest not on predicting that a joint venture will be chosen if it represents the minimum cost institution, but if it maximizes profits. As Contractor and Lorange (1986) point out, the motives for strategic behavior are plentiful, from defensive arrangements which hurt other competitors to collusive arrangements to enhance market power, perhaps at the expense of buyers.[5] To many researchers, strategic behavior and transaction cost economics are compatible approaches, for once two firms decide to collude, many of the issues of bilateral bargaining discussed by Williamson are also relevant to the design of the collusive agreement.

Though compatible, the two approaches differ in terms of predicting institutional choice.[6] (Consider the following example of a firm which sources components outside for internal assembling into a product sold as a final good.) A firm implicitly calculates the degree of asset specificity, uncertainty, and frequency and decides the sum of the transaction and economic costs favors a buy decision. Unexpectedly, consumers suddenly insist, and are willing to pay a premium for, greater quality of components. Asset specificity, frequency, and uncertainty have not changed their values.

Transaction cost economics would predict no change in the buy decision; strategic behavior implies a move towards a make decision because the importance of quality has increased and the downstream assembler is under greater incentives to appropriate the rents. One way to handle this problem is to trick the analysis to look like a cost-minimizing issue. For example, it could be posited that the downstream firm compares the revenue stream under internal manufacture to that under outside purchase, calls this difference an opportunity cost, and then proceeds to minimize the sum of transaction, economic, and opportunity costs. But if this solution is to be permitted, then every situation can be reduced *ad hoc* to comply with transaction costs. For the point of view of what is of analytical interest, it is empirically and theoretically important to separate out reasons of appropriability of revenue streams derived from strategic positioning in a particular product market from reasons of minimizing costs. What is the point of a theory if there is no variance to be explained?

Another explanation for joint ventures is derived from organizational theory and stresses cooperative motivations. The basis of this perspective is that firms can be conceived as organizations embodying different skills, or what McKelvey (1982) calls comps. To the extent that comps are embedded in complex organizational routines, the transfer of organizational skills through the market or through a licence may be impeded. Moreover, since organizational knowledge is very likely to be what Polanyi (1967) calls „tacit," the transfer of organizational knowledge can only be carried out if the orgnaization is itself replicated.

This perspective has a straight-forward implication for joint ventures. If a firm desires to sell a portion of its technological competence, it may do so by a spot market, by a license agreement, by acquiring or being acquired by another party, or by a joint venture. Let us rule out acquisitions by assuming that the technology being transferred is only a small portion of the total value of the firm. A common mechanism by which to transfer, but control the use, of technology is through a licensing agreement. But if the knowledge is organizationally bound, a license may be an inadequate mechanism by which to transfer tacit knowledge. In this case, a joint venture serves as a vehicle which allows for the transfer and imitation of complex and tacit organizational routines.[7]

A discussed in the later sections, these three theoretical perspectives on the motives for joint venture creation have direct implications for the causes of instability. Both transaction cost and strategic behavior explanations view joint ventures as derived from a competitive dynamic, either vis-à-vis the parties to the venture or other competitors. It stands to reason, therefore, that changes in the parameters influencing the competitive positioning of the partners may lead to destabilizing their cooperation. An organizational knowledge argument, however, views termination as the completion – successful or not – of

the attempt to transfer complex technological routines. In this case, termination is simply the result of a planned „fuse."

III. Perspectives on Joint Venture Stability

The stability of any business orgnaization is influenced by a number of factors, such as, the health of the industry, the degree of competitive rivalry, and the efficiency of producton, innovation, and management. Certainly, a joint venture can be destabilized not only by these issues, but also by the degree of cooperation and competitive behavior among the partners. To isolate the factors which are unique in influencing joint venture stability requires analyzing the stability of the cooperative and competitive incentives among the partners. Changes in the environment, of strategies, and of bargaining power over the life of the venture can affect dramatically the longevity of cooperation.

Most studies which have analyzed joint venture stability have concentrated on the competitive dynamics between the partners to the neglect of the competitive nature of the industry and of the completion of technology transfer. Franko (1971) analyzed joint venture instability in terms of strategic change, as proxied by whether the American partner reorganized its international activities. Stopford and Wells (1972) looked at conflicts between the desire of an American multinational to control the joint venture as a subsidiary and the country partner to maximize local profits. Hladik (1985) found a similar pattern in her analysis of whether an overseas venture carried out exporting.

The most detailed studies of partner conflict explanations for joint ventures have been carried out by Killing (1982, 1983) and two colleagues, Schaan (1985) and Beamish (1985). Killing argues that since dual control is inherently problematic, ventures which are dominated by one of ventures which are dominated by one of the partners are more likely to be stable. Based on a sample of 37 ventures, Killing finds support for his thesis, though statistical tests were not provided. In summarizing his thesis work, Beamish (1985) qualifies Killing's results by showing that ventures where the local partner is dominant or shares control reveal higher rates of instability in LDCs. Schaan (1985) was able to specify more clearly the link between dominant control and performance. Through a study of 10 joint ventures in Mexico, he concludesd that satisfactory performance is more likely to the degree to which parents fit control mechanismus to their criteria for success, presumably because otherwise, there is likely to be confusion over how each partner can exercise power to achieve its objectives without infringing upon its partner's authority.

No matter what the initial agreement on control and ownership may have been at the start of a venture, environmental and strategic changes over time may shift the relative bargaining power among the partners. Among other factors, Harrigan (1985, 1986) proposes that partner asymmetries, the durability of the advantages each partner brings, and the existence of exit barriers tend to stabilize ventures.[8] The empirical tests given in her chapter in this book show some support for the influence of asymmetry on stability.

The above studies suggest several possible explanations for joint venture instability. Since many of these explanations are of managerial and scholastic curiousity, I have gathered a number of hypotheses from the above authors and tested them against a sample of 148 joint ventures. Based upon this data, a few hypotheses prevalent in the literature may be tested. Killing states clearly two hypotheses:

- Hypothesis one: Dominant joint ventures are more stable than shared joint ventures (Killing, 1982, 1983).
- Hypothesis two: Joint ventures formed between firms which differ significantly in size are less stable because many additional problems arise (Killing, 1983: 123).

While it is not possible with the available data to specify many of Harrigan's suggestions, the followings statement can be tested:

–Hypothesis 3: „...concentrated settings will be more attractive settings for joint ventures because firms operating within oligopolies can focus on mutually desirable goals with greater ease" (Harrigan, 1985: 124).
–Hypothesis 4: Ventures with a partner who has market access are more stable because access is a more durable advantage than technology (Harrigan, 1985: 59, 83).

The hypotheses are tested by using a partial likelihood model. This model treats the influence of the explanatory variables (or covariates) as influencing linearly the log of the hazard function. The method works not by comparing ventures which terminated to those which did not, but by the order of terminations and censorship (that is, ventures still existing when last observed). Effectivelly, estimates on the covariate coefficients are derived by a procedure which compares ventures which terminated early to those which terminated later.
The specification of Killing's hypotheses are straightforward. Because, as noted earlier, ownership and control theoretically and, as Killing's data shows, in practice are correlated, stability should be higher for ventures when one partner has majority control.[9] The ratio of the asset size of the larger partner to that of the smaller is a fair approximation for hypothesis two.[10] Hypothesis three uses an eight-firm concentration ratio at the four digit level; unfortunately, such data is only available for manufacturing industries. (Tests using four-firm concentration ratios did not alter the results substantially.) Hypothesis four is specified by a dummy variables indicating whether the venture includes a marketing and distribution activity.
Table 5 provides a list of the variables, their source, expected sign, and the results. A positive coefficient means that a variable acts to increase the likelihood of termination; a negative coefficient means a decrease in the likelihood of termination. As a control for industry conditions, a dummy variable is included; it takes a value of one if industry shipments at the four-digit SIC level is greater than the median and of zero if otherwise.
The results do not support the hypotheses. Majority share is correctly signed but highly insignificant. (When replaced by a dummy variable for whether the venture had a partner who had dominant equity, the results ramained the same.) Hypothesis two carries the reverse sign as predicted, but is also insignificant. The sign reversal is not surprising, for logically it could be argued thet the greater the difference in asset sizes between the partners, the more likely one firm will dominate; thus by Killing's contention, the venture should be moie stable. Hypothesis three is contradicted, as the higher the degree o concentration, the more likely the venture will terminate; the relationship is significant at .10. This result also contradicts Kogut's (1986a) hypothesis that the higher the concentration rate, the higher the entry barriers and the more likely any venture would survive. The result may imply that in concentrated industries, the competitve incentives for the partners to defect increases. Hypothesis four is also contradicted. Ventures with marketing activities are more likely to terminate. Shipdum is correctly signed in all the estimations, but significant only in the fourth regression.
The above results should be viewed as discounting any simple statement on the causes of joint venture instability. At the same time, some of these relationships may be confirmed when other important influences are considered. There is a danger, in other words, of specification error.
Some current work suggests, in fact, that joint venture stability is influenced jointly by competitve incentives among the partners and competitive changes in industry structure. In recent work, Kogut (1986a) found that the likelyhood of termination is decreased when partners to the venture have other on-going agreements. Mutual forebearance to use

Hypothesis	Variable	Source	Expected Sign	Partial Likelihood Estimate
1	Majority share owner	Questionnaire	–	– 0.25 (– 0.62)
	Shipment Growth	Unpublished data from Dept. of Commerce	–	– 0.46 (– 1.28)
2	Relative Size	Moody's	+	– 0.0001 – (0.85)

IV. A Life History of a Joint Venture

In 1983, the Honeywell Corporation and L.M. Ericsson signed a multi-faceted agreement for the sale of a telecommunication switch and for joint development. In January of 1987, it was publicly announced that their joint research venture had been terminated and acquired by Ericsson. While the factors influencing the creation and termination of the venture are many, the following analysis concentrates on the motives and concerns of the two partners, the process of institutionalization, and the influences on stability.[11]

In the early 1980s, the Honeywell Corporation was involved in the production of control equipment and systems and, to a lesser but still significant extent, in the manufacture and sale of information systems products and services. The control business had been the primary business of Honeywell since its founding. The information systems businesses, on the other hand, had been acquired from other firms (such as, General Electric and RCA) during the 1960s and 1970s. Honeywell's aggressive acquisitions placed it in the secont-tier of the industry, with IBM occupying the premier position. However, its computer investments had come at a cost and had not earned the profitability of its other businesses.

In the late 1970s, Honeywell recognized the possibility to consolidate its control and information systems businesses by linking the two by a smart private branch exchange (PBX). The convergence of its two major product groups is the key to a major new strategy to offer „intelligent buildings" which integrates telecommunications, data processing, and system controls. Honeywell was searching for a stable and long-term source of supply of PBXs.

In the 1970s, L.M. Ericsson had captured the leading share of the non-United States public digital switching market and was a mojor provider of telecommunication servises and products, including cable and cellular radio products. Despite its international strength, its American position was weak and consisted mostly of the cable sales from L.M. Ericsson Inc, its American joint venture, of which it owned 50% and Anaconda (which ARCO had acquired) the other 50%. Ericsson was, therefore, looking for an enty into the American private telecommunications market, which promised substantial growth following deregulation and recent product innovations. Ericsson hoped to build a large market for its MD-110 PBX. A sale to a major customer would provide critical market share to support the costs of entry and software development to adapt the MD-110 to the demands of the American market.

Whereas an agreement for Ericsson to supply Honeywell with the MD-110 would meet the goals of both parties, there were critical areas of instability that would persistingly endanger a simple supply contract. Honeywell, for its part, would be dedicating significant resources to interface with the MD-110 switch. What would happen if L. M. Ericsson developed a different line or divested the business? For Ericsson, Honeywell would be incorporating the PBX into its products and, thus, drawing away potential customers. More importantly, Honeywell's further development of the software and hardware to interface with its equipment would enhance its abilities to develop and manufacture its own PBX. How could Ericsson guarantee that it is not giving up technology to a competitor? The critical decision was made to solve these problems before the agreement was signed. The cooperative framework was separated into four separate agreements. One agreement established the pricing for a long-term supply of the MD-110. Two other agreements provided for a sale of technology from Ericsson to Honeywell and a licensing provision by which Honeywell can choose itself to manufacture the PBX. Thus, the fears concerning loss of technology and future supplies were assuaged. The sale .of technology is particularly interesting, for it implies that Ericsson recognized that it could not protect its technology. By selling the technology, the future cooperation is left unencumbered over the use and leakage of the proprietary knowledge. If the parties cannot agree on the pricing of the technology, then without adequate protection, cooperation on the long-term supply is itself destined to fail.

The fourth agreement established the Honeywell Ericsson Development Company (or HEDC) as a 50/50 joint venture (in the legal form of a partnership) in order to develop software for the adaptation of the MD-110 to the American market. The partnership not only shareed the fixed costs and risks of developmental work, but also served the important function of bringing together the research efforts of both parties, thereby creating personal trust and team learning between Ericsson and Honeywell.

The use of multiple clauses to the agreement fits well with transaction cost arguments. The licensing contract eliminated some of Honeywell's dependence on a single source for a critical component. The technology agreement resolved an issue that would otherwise be destabilizing. Finally, the joint venture served not only to share development costs, but to enhance the cooperation between the firms.

The joint venture was also critical to the successful transfer of knowledge between the firms. Both firms had started development efforts prior to the agreement. Much of this knowledge was being produced by engineering teams which had not yet codified the work in process. By bringing the engineering teams together and then circulating some of the people back to the partner organizations, the requisite knowhow was transferred between the two firms.[12]

Since the central tasks of HEDC was to develop software applications and transfer the products back to the partner firms, the institutional structure of the venture mirrored these objectives. The venture was controlled through three organizational entities: the Board of Directors consisting of 3 executives from each firm; the Executive Board consisting of 2 executives from each; and Project Planning Board, consisting of 3 executives from each and including the project planning manager of the joint venture. Over time, the Executive Board was dropped as redundant. The Board of Directors met twice a year and was chaired by an Honeywell executive since the venture itself was headed by a former Ericsson manager. It had the primary task to overseeing progress and ascertaining whether the venture was progressing on what was called the „project roadmap." This roadmap was a careful statement incorporated into the agreement which laid out the research projects and objectives for the venture. The Project Planning Board was the critical linkpin between the venture and the market planning groups in the partner organizations. A concern raised in the negotiations was whether the venture may stray from the partner strategies. The function of the Project Planning Board was to keep the development activies of HEDC in line with the partners' marketing objectives.

Over the first year and half of operations, HEDC grew to over 160 engineers and successfully tested the first major development project: the integration of voice and data signals. However, several problems inherent in the beginning of the venture began to emerge. First, since Ericsson and Honeywell already had established facilities in the U.S., HEDC was split between Anaheim and Dallas, the former close to Ericsson's, the latter to Honeywell's operations. Because of the geographical isolation, separate projects were allocated to each location, though visits were frequent and coordination was closely maintained. Second, whereas both firms wanted integrated voice/data communication capabilities, the other projects were not always of equal importance to the partners. This difference was especially evident regarding a packet switch which was more of interest to Ericsson`s efforts in promoting electronic mail.

In late 1985, Honeywell drastically chose to reduce its cost commitment to the venture and some 50 engineers were released to their parent organizations. As a result, HEDC consolidated its operations to its Anaheim location. Despite the dismissal, the projects remained largely on track. Still, in late 1986, Honeywell decided to pull out entirely, leaving HEDC to become a wholly-owned part of Ericsson's American operations. (Ericsson had acquired a 100% ownership of L. M. Ericsson Inc. the previous year.)

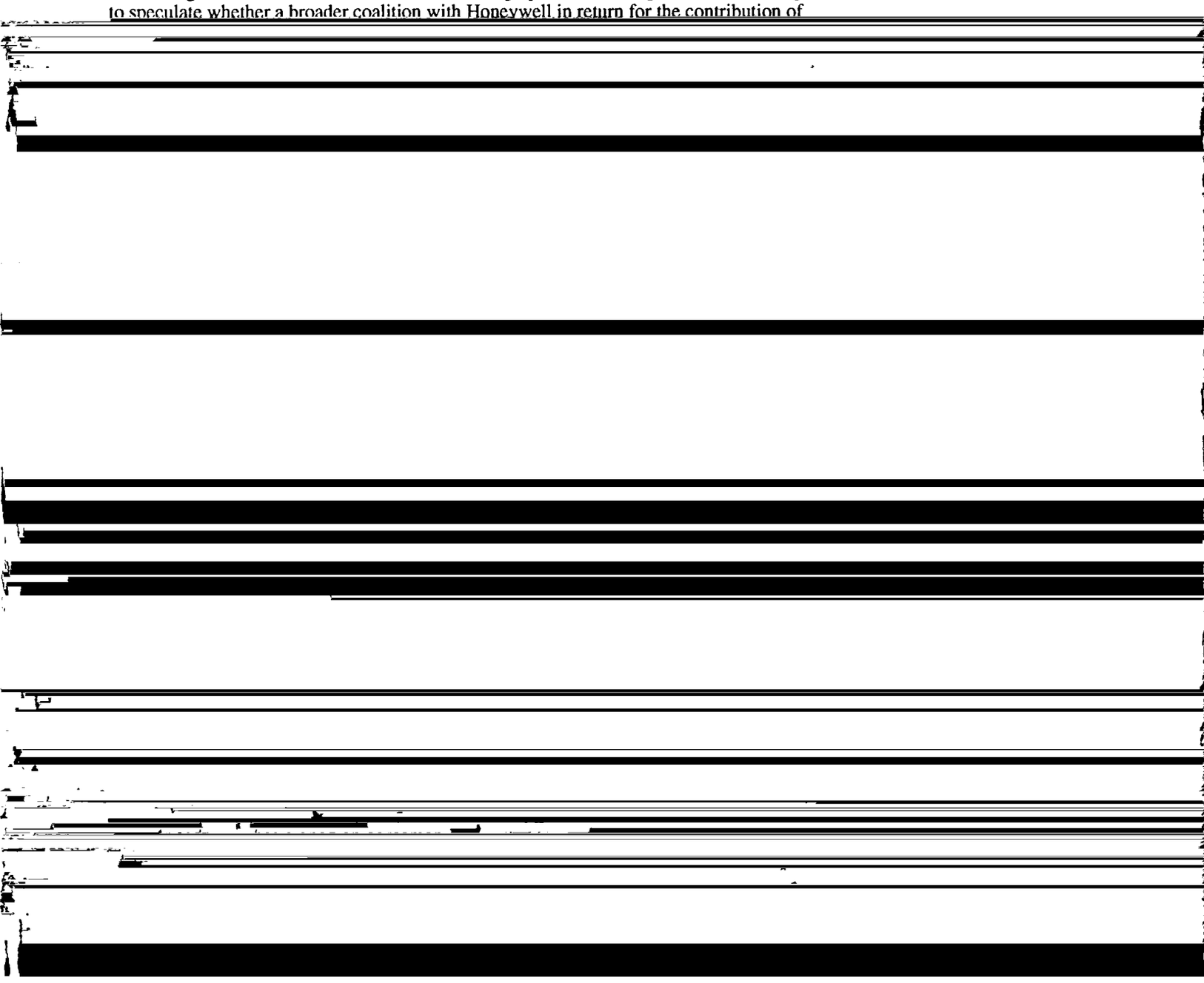
Through terminated, the venture could hardly be considered a failure. Both the supply and technology agreements remain in force, even though Ericsson and Honeywell occasionaly confront each other as competitors in the PBX market. Moreover, the venture succee-

ded in adapting the switch to the American market and transfering the software knowhow of both firms to each other. In this sense, termination reflected the completion of the limited objectives of the original agreement. Finally, through the acquisition of HEDC, Ericsson obtained an on-going research facility critical to its plans for further product development and adaptation.

The Honeywell and Ericsson ageement illustrates three important issues. First, a joint venture is frequently only a part of a multiplictiy of contracts between the partners. To understand the joint venture, it is necessary to analyze it from the perspective of the total relationship, if not from its position in the wider cooperative network of the partners.

Second, the history of the venture suggests that there was a possible shift of bargaining power in the course of the relationship. Initially, Ericsson was in possession of a switch which had already been proven outside the United States and of proven capabilities in leading developments in digital communciation technologies. Honeywell offered the clout of a large purchase contract and some software application knowhow. But over the course of time, Honeywell acquired growing familiarity in the development of the relevant technologies. On the other hand, the disappointment of Ericsson's other businesses in the United States increased the importance of Honeywell as a potential customer for other products and, possibly, as a partner in other areas. However, the incentives for Honeywell to contribute its marketing strengths to a venture with Ericsson diminshed once the requisite technology had been transferred.

The shift in bargaining power raises third issue concerning whether it was a missed opportunity for Ericsson to restrict the agreement. Like Honeywell but to a far lesser extent, Ericsson also acquired firms in information systems, and it was to the information systems division that a considerable amount of investment was allocated for the purpose of entering the American market. From the vantage point of hindsight, it is interesting to speculate whether a broader coalition with Honeywell in return for the contribution of



Footnotes

1 The work on these issues has become voluminous, with some of the seminal research being Stinchcombe, 1965; Kimberly, 1975; and Hannan and Freeman, 1977, 1984. See also the volume of essays edited by Kimberly and Miles, 1980.
2 However, a follow-up survey of the ventures still existing at the time the data was collected has been done one year later and the current results, still not yet fully tabulated, do not seem to support a consistent pattern in this regard.
3 See the opening chapter by Contractor and Lorange for a catalogue of explanations.
4 For a statement of mutual hostage positions, see Schelling, 1960, Williamson, 1985, and, for an application to contracts in East-West trade, Kogut, 1986b.
5 An extensive empirical investigation of these motives can be found in the articles of Berg and Friedman (1977, 1981a, 1981b) and Duncan (1982).
6 Williamson, 1985, also clearly differentiates his approach from strategic behavior in recognition on the problem of predicting institutional choice when firms need not minimize cost.
7 Hennart (1986) has a similar analysis, but he labels impediments to the transfer of organizational knowledge as a transaction cost, even though there is no underlying condition of opportunistic behavior.
8 Harrigan cites many factors; I have tried to cull those factors out which are unique to joint ventures rather than generic to any business enterprise.
9 The argument why equity share is a reasonable proxy for control is discussed in Kogut, 1987.
10 Sanford Berg suggested this measure in the discussion on the paper.
11 The agreement is described fully in a case study available from the author. See Kogut and Rolander, „Honeywell Ericsson Development Company," Stockholm School of Economics, 1985.
12 A similar process is discussed by Harrigan, 1985.
13 Reported by R. T. Gallagher, „Ericsson Tries Again to Crack the U.S. Market," *Electronics*, April 21, 1986.

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