



THE ORGANIZATIONAL CHANGE PROGRAM
For the CGIAR Supported International Agricultural Research Centers

**DEVELOPING AND MANAGING COLLABORATIVE ALLIANCES:
LESSONS FROM A REVIEW OF THE LITERATURE**

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I. INTRODUCTION

In the past decade, organizations in both the public and private sectors have moved aggressively towards developing strategic alliances and other forms of inter-organizational collaboration (Bergquist, 1995; Evan and Olk, 1990; Gray 1989; Huxham, 1996; Kanter, 1994; Lei and Slocum, 1991; Mattessich and Monsey, 1992). Increasing complexity and turbulence in the environment of organizations, rapid changes in technology, and the denser web of connections in the global economy are all forces driving this move.

In the private sector, collaborative arrangements have been motivated largely by the desire for improved competitiveness, access to new markets and technologies, risk sharing, and increased economies of scale. Alliances have taken numerous forms including joint ventures, licensing arrangements, and R&D consortia. In the public sector, the shrinking resource base for not-for-profit organizations has also stimulated the move towards strategic alliances (Bergquist et al., 1995; Huxham, 1996; Mattessich and Monsey, 1992; Winer and Ray, 1996). Funders are promoting collaboration as a means to cut costs and reduce duplication of efforts. Organizations are joining forces to address common concerns and deliver similar services. Some are teaming up simply to avail of opportunities for joint funding (Huxham, 1996).

A review of the literature suggests that, despite the rapid growth of strategic alliances, the experiences have been mixed (Bergquist et al., 1996; Gulati, et al., 1994; Heaton, 1998; Huxham, 1996). While some have been highly successful, in many others the advantages have not been fully realized. The costs and management challenges are often much higher than anticipated. Bergquist et al. (1995), studying 75 diverse alliances in the United States, found that about 1 out of 3 had either failed outright, had to be radically restructured, or survived only because the partners could not extricate themselves. Bleeke and Ernst's (1991) study of 49 international partnerships discovered that two-thirds ran into serious financial or managerial trouble during the first two years. Over a longer time frame, one out of three failed, but half were considered to be successful by both partners. Assessments of R&D experiences with consortia in Japan and the United States suggest that collaborative research has been fraught with difficulties and has not always yielded the anticipated advantages (Evan and Olk, 1990; Hane, 1994; Heaton, 1988; Werner and Bremer, 1991).

The intention of this briefing paper is to summarize the diverse literature on strategic alliances and inter-organizational collaboration, giving particular emphasis to collaborative R&D. The literature is dispersed across diverse fields and, despite the growing importance of alliances, it is still quite limited. The aim is two-fold: 1) to pull together findings from diverse sources on the relative advantages and disadvantages of this new organizational model as well as on the appropriate conditions for the use of alliances; and 2) to extract from the experiences documented in the literature, relevant lessons for designing, managing, and sustaining effective alliances, particularly in research.

II. WHY COLLABORATE?

The rationale for engaging in strategic alliances is driven by considerations for improved organizational effectiveness and efficiency.

Effectiveness Considerations

The most compelling rationale for engaging in collaborative relationships indicated by the literature is the advantage an organization accrues by gaining access to *complementary* areas of expertise, knowledge, skills, technology, or resources that it cannot produce on its own (Bergquist et al., 1996; Evan and Olk, 1990; Gomes-Casseres, 1993; Gray, 1989, 1996; Grindley et al., 1994; Huxham, 1996; Kanter, 1994; Ouchi, 1989; Powell et al., 1996; Ring and Van de Ven, 1992). Most researchers on strategic alliances concur that the value added from collaboration comes primarily when partners have complementary needs and assets. Heaton (1988), in reviewing Japanese R&D consortia, argues that joint R&D is most appropriate when members of an industrial group face common technical problems that are beyond the ability of any one organization to solve on its own. Huxham (1996) concludes that organizations should only form collaborations when a) it clearly helps each organization achieve a priority aim; and b) it is clear that a single organization, acting alone, cannot address the problem.

Kanter's (1994) research on private sector alliances supports this conclusion. She found that successful alliances involve *collaboration*, what she thinks of as creating new value together, rather than simple exchange. More specifically, she found that partnerships that link up distinct (and complementary) stages in production or the delivery of services, what she calls "value-chain alliances", tend to be the most successful and closely bound. In contrast, partnerships which pool similar resources to produce a single product or service, as is common in the not-for-profit sector, tend to be the weakest and least sustainable types of partnerships.

Studies of R&D alliances in particular have identified specific conditions under which collaborative arrangements are most beneficial. Powell et al. (1996) conclude that consortia are advantageous when the knowledge base of an industry is both complex and expanding, the sources of expertise are widely dispersed, and the pathways for developing technology are largely uncharted. They argue that under these conditions, the locus of innovation will be found in networks of learning, rather than in individual firms, as in the case of the biotechnology sector.

"A key finding from a diverse set of studies is that R&D intensity or the level of technological sophistication in industries is positively correlated with the intensity and number of alliances in those sectors" (Powell et al., 1996).

They also correlated alliances with organizational performance. They found that in the biotechnology sector in the USA, firms with dense networks of alliances were growing faster than those without (Powell et al., 1996).

In his review of the experiences of alliances and collaborative arrangements in the semiconductor industry, Ouchi (1989) also stresses the criteria of complementarity in expertise and knowledge. He argues that consortia are useful when the collaborating parties have a high level of interdependence and require frequent and dense communications, but their respective areas of specialization are sufficiently different such that it would not be advantageous to incorporate them within same organization.

One of the most important insights emerging from the literature on R&D consortia is that while organizations can use collaborative alliances to complement their technical and managerial strengths, they cannot substitute alliances for the complete absence of specific competencies (Evan and Olk, 1990; Grindley et al., 1994; Powell et al., 1996). If members are to benefit from R&D consortia, they need to have sufficient absorptive capacity to take in knowledge generated and transform it into technology or knowledge relevant to their particular mission. The study by Grindley et al. (1994) of the Semiconductor Manufacturing Technology Consortium (SEMATECH) revealed that those organizations that had strong in-house expertise benefited most from the consortia.

Improved flexibility and responsiveness is a second potential advantage of alliances contributing to improved effectiveness (Bergquist et al., 1995; Lorenzoni and Baden-Fuller, 1995; Ring and Van de Ven, 1992). Gray (1989) argues that collaborative alliances are a logical and necessary response to turbulent conditions in the environment. Heaton (1988) argues that R&D consortia can provide greater flexibility and responsiveness to rapid changes in technologies and research developments.

Efficiency Considerations

Efficiency considerations represent a second set of factors driving organizations towards strategic alliances and collaborative arrangements. Incentives most frequently cited for collaborative R&D include economies of scale, sharing of risks, reduction in duplication of effort, and gaining access to new markets and technologies (Bleeke and Ernst, 1991; Evan and Olk, 1990; Grindley et al., 1994; Lei and Slocum, 1991; Lorenzoni and Baden-Fuller, 1995; Ring and Van de Ven).

In the not-for-profit and governmental sectors, or in resource-scare situations, the argument has focused on reducing duplication of efforts and ensuring the coordination of the efforts of diverse agencies towards an integrated whole (Huxham, 1996; Lei and Slocum, 1991). Several researchers conclude, however, that despite the hypothesized economic advantages, collaborative arrangements rarely lead to cost reductions. Moreover, cost saving incentives alone will rarely provide the basis for a productive and sustained collaboration (Gray, 1989; Grindley et al., 1994; Huxham, 1996; Kanter, 1994).

In the United States and Japan, much of the movement towards government support for R&D consortia was to improve international competitiveness in critical industries (Evan and Olk, 1990; Ouchi, 1989). Again, experience has shown that the spectrum of conditions for which R&D collaboration is beneficial is narrower than had been anticipated. Experiences from the US and Japan suggest that private sector R&D consortia tend to focus on lower priority problems; pre-competitive or generic technologies; and on short-term, incremental research rather than radical breakthroughs (Grindley et al., 1994; Ouchi,

1989; Werner and Bremer, 1991). Heaton's review of Japanese R&D consortia revealed that they are relatively modest in scale, focused on information exchange, and aimed more at technology transfer than technology generation. He argues that, "The goal is to enhance the knowledge base underlying the next generation of technology, but to leave the development and production of that technology to the private efforts of individual companies" (Heaton, 1988).

Concerns about the appropriability of results is a major factor circumscribing the development of alliances in R&D (Grindley et al., 1994; Ouchi, 1989). Ouchi (1989) argues that R&D consortia in the private sector are most appropriate for "leaky" technologies where property rights are appropriable by the inventor for only a short period of time. While concerns about appropriability of research results may be less explicit in public sector research, concerns about appropriability of credit for research developments can have the same constraining effect on the formation and functioning of an R&D consortia.

A good example of how concerns about appropriability affect R&D consortia is SEMATECH, a large consortia in the semiconductor industry which receives joint funding from government and private member firms. The original intention was to provide research facilities for member firms to collaborate on projects to improve the semiconductor manufacturing process technology and restore the international competitiveness of US firms. The focus soon changed, however, to strengthening the semiconductor manufacturing equipment industry. Member firms were reluctant to enter into "horizontal" collaboration and share knowledge on process technology which was central to their competitive advantage (Grindley et al., 1994). Instead, they used SEMATECH to strengthen their "vertical" alliances between suppliers and users of semiconductor process equipment. Now SEMATECH is similar to many Japanese R&D consortia. It pools members' resources to support knowledge diffusion and technology transfer, to set industry standards, and to "qualify" equipment, and coordinate generic research.

Grindley et al. (1994) draw conclusions from the SEMATECH experience that are relevant to alliances between international and national agricultural research systems:

"SEMATECH's experience supports the argument that consortia are likely to be most effective in supporting the improvement and adoption of technology rather than focusing on long-term research... the experience [also] suggests that consortia are well-suited to supporting collaboration between users and suppliers that focus on relatively near-term technology development, support for technology adoption, and improved communication and cooperation between users and suppliers."

Collaborative Advantage

Experiences to date suggest that alliances are more advantageous and sustainable when they are motivated by effectiveness considerations and when there is a clear value added as a result of the

partnership.

“Collaborative advantage will be achieved when something unusually creative is produced that no organization could have achieved on its own and when each organization, through the collaboration, is able to achieve its own objectives better than it could alone.” (Huxham, 1996).

Given their high costs, many researchers would argue today that collaborative alliances are not justified unless this type of advantage is achieved. Efficiency considerations alone are rarely sufficient to form the basis for successful alliances. This calls into question the assumption that collaboration is an effective response to resource scarcity.

III. CHALLENGES TO COLLABORATION

With the accumulating experience of alliances, the literature is now replete with the challenges affecting the viability of collaborative alliances. Huxham (1996) discusses *collaborative inertia*, or the slow pace of work output, as an undermining force. He argues that collaboration is inherently more time-consuming, and hence resource-consuming, than non-collaborative activities. The time demands – both in the total quantity of time invested and in elapsed time – are often not anticipated nor adequately budgeted for. Gomes-Casseres (1993) argues that the trade-off for getting access to complementary skills or knowledge is sharing of control. Sharing control often requires increased costs and time in management as decisions and division of responsibilities usually have to be negotiated. Gray (1989) also cites constraints to time and financial resources as key factors undermining collaborations.

Other critical factors found to undermine collaborative alliances include: significant differences in power and influence among the parties (Bleeke and Ernst, 1991; Gray, 1989); differences among organizations regarding the aims for collaboration; differences in organizational cultures and values, particularly in international alliances (Bartlett and Ghoshal, 1987; Huxham, 1996; Kanter, 1994); lack of trust (Mattessich and Monsey, 1992; Ring and Van de Ven, 1994); and conflicts in staff’s accountability to the alliance or the parent organization (Evan and Olk, 1990). Finally, most researchers stress that managing alliances requires skills and systems that are not the same as those that lead to success in vertically organized, hierarchical, organizations (Bergquist et al., 1995; Gray, 1989; Kanter, 1994). This requires developing new management skills and competencies in organizations.

IV. TYPES OF ALLIANCES

The literature uses varied terminology to define types of alliances. Lei and Slocum (1991) provide a useful framework which outlines three broad categories of strategic alliances. Their emphasis is primarily on the private sector, but is relevant to a wider array of organizations.

Licensing arrangements

These arrangements are when one organization purchases the technology of another in exchange for market entry into a new region or country. This increases the chance that the organization will be able to set industry standards and allows for quicker access to new territory. As well, it cuts down on R&D costs and promotes specialization of different research-based competencies.

Joint ventures

Joint ventures involve creating a new entity in which original partners take active roles in designing strategy, defining agendas for work and in decision-making. There are two kinds of joint ventures: specialization ventures and shared value-adding ventures. *Specialization ventures* are those to which each partner brings and contributes a distinctive competency in a particular value-adding activity (e.g., one produces, the other markets). These ventures are generally organized around functions (marketing, manufacturing, etc.). These are similar to Kanter's (1994) *value-chain partnerships*. In these partnerships, organizations in different industries or sectors with different but complementary skills link their capabilities to create value for ultimate users (e.g., supplier-customer relationships). Kanter explains that commitment tends to be high in these relationships. In the *shared value-adding ventures*, partners participate and share in the value-adding activities together (e.g., both design and produce jointly). These ventures tend to be organized around products or lines of business.

Consortia, Keiretsus, Chaebols

Lei and Slocum (1991) view these as the most sophisticated type of strategic alliance. They argue that "keiretsu/chaebol structures are designed to maximize all of the potential benefits of joint ventures – risk sharing, cost reduction, economies of scale – while allowing for organizational specialization". *Keiretsus*, the Japanese model of consortia, brings together many industrial companies (centered around a large trading company or bank) by directorates, bank holdings of member company stock shares, and ties between senior managers. *Chaebols*, the Korean model of consortia, are similar except that they rely on the government for capital and are managed by family members of the bank or company.

Evan and Olk (1990) define *R&D consortia* as typically involving two or more competing organizations who pool their resources to create a new legal entity to conduct R&D. Each organization needs to provide capital and technology but the two organizations do not merge. R&D consortia, then, are an alternative to licensing arrangements, acquisitions, and joint ventures. For Evan and Olk (1990), the distinguishing feature of R&D consortia is that they represent a collaboration among competitors.

V. PHASES OF COLLABORATION

Gray (1989, 1996) provides a useful framework identifying three phases in collaboration. Each phase

presents specific concerns and issues that need to be resolved if the collaboration is to develop effectively. The phases may be iterative. Issues unresolved in one phase are likely to surface, often in detrimental ways, in subsequent phases. These issues are discussed in more depth in the following section.

Problem-setting

The most important concerns here are convening the appropriate stakeholders and getting their commitment to collaborate. The focus needs to be on defining the problem clearly, involving the appropriate stakeholders, developing commitment among the stakeholders, ensuring that the collaboration meets members' specific interests, building trust in the convenor, and securing the resources to move forward.

Direction-setting

During this phase, stakeholders explore the problem(s) in depth and reach agreement about approaches. The aim of this phase is to define the key issues to be addressed in the collaboration (agenda-setting), pool information and perspectives about the problem or generate new information, explore options for working together and establish agreements, and define the ground rules for working together.

Implementation

This phase includes follow-through on the agreements reached for the collaborative arrangement. The aim here is the systematic management of the collaboration. The principal concerns are deciding how to structure the collaboration and designing the process for working together, dividing responsibilities and resources, ensuring that all partners have the support and agreement of the member organizations, and monitoring the collaboration to ensure that all parties fulfill their agreements.

VI. FACTORS INFLUENCING SUCCESS

A recent review of the literature on collaborative alliances in the not-for-profit sector in the USA identified a set of key factors that influence the success of collaborations (Mattessich and Monsey, 1992).

- Membership
- Purpose and objectives
- Structure
- Process
- Communications
- Resources

These factors provide a useful framework for organizing the principal insights and lessons emerging from the literature for designing, organizing, and managing effective collaborative alliances.

Membership

The selection of members in the initial problem-setting phase of an alliance is a critical factor affecting success (Bergquist et al., 1995; Gray, 1989; Huxham, 1996). Bergquist et al. (1995) observe that alliances often fail because organizations do not allocate sufficient time to match the reasons for forming the partnership with the intentions, competencies, and perspectives the other partners bring to the relationship. As noted earlier, members need to bring complementary skills, knowledge, or resources to the alliance so that the collaboration creates something new which no one member could do on their own. Collaboration is more likely to succeed if members explicitly recognize their interdependence early in the development of the alliance (Gray, 1989, 1996). Gray (1989) also found that it is crucial to involve stakeholders who are important for implementing the agreements or work of the alliance in the planning and design phases. For example, it is not uncommon that top managers form alliances and then turn them over for implementation to technical or operational staff who do not see the same benefits nor share the same commitment (Werner and Bremer, 1992). Finally, Kanter (1994) emphasizes the relationship dimension to selecting partners. She argues that a partnership with another organization should be more than just a deal. The chemistry and compatibility between senior executives, for example, are as key to launching a successful partnership as is financial potential or complementarity in expertise.

Much of the literature on alliances also focuses on trust. Ring and Van de Ven's (1991) work highlights trust as one of the key ingredients in successful collaboration. Organizations build trust by completing transactions successfully, or over time, and demonstrating that they are capable of fulfilling commitments. Trust is also shaped by perceptions that the partnership is equitable. Thus, alliances between mutually strong organizations tend to be more successful. In their study of 75 partnerships, Bergquist et al. (1995) also found that trust was critical for the formation and maintenance of partnerships. They cite three types of trust:

- trust in *intentions* – the partners believe that they are pursuing the same objective and will not hurt the interests of the other
- trust in *competency* – the partners believe that each can deliver the knowledge and skills required to make the alliance beneficial
- trust in *perceptions* – the partners believe that they view the world in similar ways and work from similar operating assumptions.

Exploring these types of trust in the planning stage of a consortia is critical for the long-term success of a partnership. Without respect and trust, it is impossible to move forward on any joint agenda.

Purpose

Developing a shared goal and vision for the alliance among members emerges as a key factor influencing the success of collaborative alliances. It is important to take time in the early stages of setting up an alliance to ensure that the problem(s) to be addressed are clearly defined and that the aims of the collaboration are clear and shared by all members (Bergquist et al., 1995; Gray, 1989; Huxham, 1996). This may entail protracted negotiations.

“Given that partnerships have unclear boundaries, a shared vision becomes the glue for holding alliances together. A partnership’s mission and values are intimately intertwined with the partners’ mutual commitment.” (Bergquist et al., 1995).

Developing a shared purpose helps to clarify the boundaries and commitments and also the scope and scale of joint work. It also helps to provide a control against the collaborative drifting away from its mandate or against partners becoming opportunistic and pursuing their own ends. It can also create a reference point for external dealings which distinguishes the alliance from the “parent” members (Cropper, 1996). Consortia that have a shared purpose and vision appear to also be better able to deal with conflict (Bergquist et al., 1995; Gray, 1989). This is particularly important for R&D alliances “where potentially conflicting perspectives are built in from the start because the projects are multi-disciplinary in scope and must transcend the inherent tensions between basic and applied research in order to get innovative products to market” (Gray, 1989).

Three aspects of purpose are significant for success. First, the aims of the consortia need to correspond to the strategic objectives of the member organizations (Evan and Olk, 1990; Huxham, 1996; Kanter, 1994). If member organizations do not see the alliances as creating substantial added value in terms of their primary mission, commitment will wane. In other words, organizations should only invest in collaborative arrangements that help them meet priority objectives. At the same time, however, it is important that the aims of the alliance do not replicate fully those of any one member. There should be a sphere of activity for the alliance that is distinct from that of any member alone (Mattessich and Monsey, 1992).

“When making a commitment to work together, it is important that this commitment incorporates clear signs of continuing independence for the partners. The collaboration should clearly define what the work is that the partners plan on doing together, but also allow for the individual organizations to continue with their separate agendas.” (Kanter, 1994)

Second, if commitment is to be sustained, the alliance needs to provide on-going evidence of benefits to members. Work of an alliance can often become “invisible” to member organizations and come to be seen as a drain on core resources. Evan and Olk (1990) found that it is important for managers of R&D consortia to disseminate reports periodically to members so that they can assess progress and be kept apprised of the outputs from the alliance.

Finally, experiences with collaborative alliances suggest that it is important to define a series of short-term goals which lead to the overarching goal. Groups develop trust and confidence in the collaboration if they experience a progression of “successes” in meeting specific objectives or milestones (Mattessich and Monsey, 1992; Ring and Van de Ven, 1992).

Structure

Organizational models

There are two primary organizational models used in R&D collaborations: a secretariat model and an independent operating entity (Evan and Olk, 1990; Ouchi, 1989). A *secretariat* is a small administrative unit that coordinates research tasks among entities. It may collect and allocate funds or coordinate joint application for funds, but it does not own facilities for R&D. Experience suggests that using this model can make it more difficult to integrate projects into a coherent research plan/program (Ouchi, 1989). It is, however, much easier to launch and to staff. Accountability to member organizations tends to be stronger than inoperational entities.

An operational entity owns and operates its own research facilities. It may hire its own people or get people on secondment from member organizations. The advantages of using this model are that operating entities can gather a specialized research staff, pursue an integrated technology plan, and achieve some independence from short-term concerns of their members. Grindley, et al.(1994) argue that a free standing operational entity provides more flexibility than the secretariat model for adapting the research agenda to changes in the environment. In their study of 49 alliances, Bleeke and Ernst (1991) found that successful collaborations are ones that give the alliance a strong president, a powerful board, a sense of identity, and complete delegation of decision-making power on operational issues.

Size is a second factor influencing the structure of a consortia. Smaller consortia can be more centralized and have more opportunity to develop a common and integrated research strategy. Consortia involving a large number of members tend to opt for a decentralized structure and research agenda as a means to minimize conflict over divergent members’ interests. In these cases, Grindley, et al. (1994) advocate bringing smaller numbers of members together around discrete projects. Most of the large Japanese research consortia are organized in this manner (Heaton, 1988).

Links at multiple levels

A common finding in the literature is that it is important to ensure that the links among member organizations occur at multiple levels of the administrative hierarchy. Senior managers need to work together to define the overall vision, strategy, and priorities of the collaborative venture. Technical and operational staff need to work together in the planning and implementation. Misunderstandings easily develop without these diverse layers of communication and interaction (Bergquist et al., 1996; Werner

and Bremer, 1992). Werner and Bremer (1991) recommend linkages to avoid bias or lack of information from specific individuals. Powell et al. (1996) also stress the importance of supplementing formal links with informal contacts.

Linkages at multiple levels are central to Kanter's (1994) analysis of the factors contributing to collaborative advantage. She cites five levels of integration that are necessary to a successful collaboration:

- *Strategic integration* – involves continuing contact among top leaders to discuss broad goals or changes in each organization.
- *Tactical integration* – involves bringing middle managers or professionals together to develop plans for specific projects or joint activities, to identify organizational or system changes that will link the organizations better, or to transfer knowledge.
- *Operational integration* – involves providing ways for people who carry out the day-to-day work to have timely access to the information, resources, or people they need to accomplish their tasks.
- *Interpersonal integration* – Involves building the necessary foundation for creating future value.
- *Cultural integration* – Requires that people involved in the relationship have the communication skills and cultural awareness to bridge their differences.

Process

The crucial role of process in ensuring effective collaboration is frequently underestimated (Bergquist, 1995; Gray, 1989; Kanter, 1994). Considerations of substance often capture the attention of collaborating partners to the exclusion of process considerations. In the private sector, Kanter (1994) argues that “executives invest more time in screening partners in financial terms than they do in managing the relationship in human terms.” Often there are strong external pressures to move quickly into action and the fundamentals of establishing a solid basis for the collaboration are shunted aside. However, this can have high costs. Accumulating experiences indicates that poor management of process can completely derail collaborative efforts.

“Awareness of the critical process issues, and conscious efforts to address them throughout the collaborative efforts, can mean the difference between success and failure. (Gray, 1996, p. 62)

The literature suggests that the critical issues of process include: cultivating commitment and a stake in the outcome, developing clear roles and policy guidelines, setting up accountability mechanisms, establishing decision-making processes, maintaining flexibility and adaptability, and managing relationships and power dynamics (Mattessich and Monsey, 1992). To design and manage effective

processes for collaboration, several researchers stress the importance of cultivating the appropriate management skills in the organizations and using skilled facilitators (Gray, 1989; Huxham, 1996; Kanter, 1994; Mattessich and Monsey, 1992; Powell et al., 1996)

Cultivating commitment. It is commonly accepted that partners in an alliance need to feel committed to the product or outcome of their joint work if it is to succeed. What is often less often recognized, but appears to be equally important is that members also need to feel an “ownership” for the process of working together (Mattessich and Monsey, 1992). Gray (1989) argues that it is important to discuss process issues openly and systematically and reach agreements among the partners about how the collaborative group will organize itself to make decisions, assign responsibilities and resources, and carry out its work. These ground rules cannot be imposed by the convenor. Rather, time and resources need to be allocated so that these can be developed by the group.

Defining roles and responsibilities. Ambiguities in roles and responsibilities among members and lack of accountability mechanisms is a prime factor contributing to the demise of collaborative efforts (Bergquist, 1995). Collaborating partners need to have clear agreements on their respective roles, rights, and responsibilities. Assignment of responsibilities should build on individual members’ strengths and interests if commitment is to be sustained. Potential conflicts between roles and responsibilities of staff in the collaborative arrangement and those in their parent organization often have to be negotiated and rationalized (Huxham, 1996; Mattessich and Monsey, 1992). Perhaps the most vexing problem for public sector collaborative alliances is establishing accountability mechanisms to ensure that members perform their roles and fulfill their commitments. The more autonomy a collaborative venture has from the parent organizations, the easier it is to ensure internal accountability. But the trade-off may be loss of support for the collaborative venture from the parent organizations.

Developing decision-making processes. There is broad consensus in the literature that effective decision-making processes are critical to the success of collaborative alliances (Bergquist et al., 1995; Evan and Olk, 1990; Gray, 1989; Grindley et al., 1994; Kanter, 1994). Many of the problems surfacing in partnerships result from conflicts about decision-making processes and authority. Processes need to be designed which allow for active participation and consensus-building, but at the same time promote efficient decision-making. Skills and mechanisms to resolve conflicts constructively are a critical aspect of effective decision-making structures (Evan and Olk, 1990). Real or perceived power imbalances among members can aggravate conflicts and need to be taken into account when designing decision-making structures (Gray, 1989; 1996). The less powerful members need to be reassured that their interests will be taken into account. Gray (1989) describes collaborations as “negotiated order” and stresses the role of negotiation skills in establishing and sustaining these efforts.

Maintaining flexibility and adaptability. Several authors underscore the dynamic nature of strategic alliances. To cope effectively with changes in their environments, members’ goals or strategies, or even changes precipitated by their own evolution, it is important for alliances to remain flexible. Flexibility is needed both in terms of the way alliances work together and in terms of the product they generate or service they provide (Bergquist et al., 1995; Bleeke and Ernst, 1991; Gomes-Casseres, 1993; Gray, 1989; Grindley et al., 1994; Mattessich and Monsey, 1992). With changing conditions,

alliances may need to be radically redesigned in order to remain viable or they may need to be disbanded. Alliances appear to be particularly vulnerable to changes in leadership and memberships. Buffering mechanisms to provide stability through such periods of change are important for success (Bergquist et al., 1995; Werner and Bremer, 1991). Though inherent flexibility should be one of the strengths of collaborative ventures, since they are free from the bounds of traditional, vertically integrated organizations, experience has shown that these groups too can become routinized, inward looking, and closed to change (Bergquist et al., 1995).

Bleeke and Ernst (1991) found a strong link between flexibility and success in their study of 49 international, private sector, alliances. Nearly 40% of the sample gradually broadened the scope of their original charter. Of those that adapted and changed, 80% were successful. In contrast, among the alliances that remained unchanged in scope, only 33% were successful and more than half were terminated.

Managing relationships. Two critical factors that affect the relationships among members in a collaborative venture are differences in organizational cultures and differences in power. These require attentive management. Kanter (1994) views surmounting differences in organizational cultures as one of the most challenging aspects of developing effective partnerships. She emphasizes the need to avoid stereotyping about cultures and setting off cycles of mistrust from the start. Differences in assumptions and values about authority, reporting relationships, and decision-making processes need to be addressed at the beginning of the collaboration. Differences can be tenacious and collaborating parties need to be patient in developing a common foundation of values and practices for working together (Bartlett and Ghoshal, 1987; Kanter, 1994).

Gray (1989) stresses the importance of power dynamics in collaboration:

“In collaboration, the power to define a problem and propose a solution is collectively shared among the decision-makers. Major inequities in power are a major deterrent to collaboration. If there are substantial inequalities, then the weaker stakeholders need to organize to create a countervailing power.” (Gray, 1989)

She argues that stakeholders should be aware of power dynamics throughout the collaboration process and make conscious choices about how it is exercised. Power dynamics during the problem-setting phase largely revolve around who has the power to convene and who will be included. During the direction-setting phase, it revolves around shaping the agenda and sharing of information relevant for the process. During the implementation phase, the issues revolve around the power to exercise influence, authorize action, and control resources.

Cultivating management skills. Managing collaborative alliances, which rely on participation, ownership, power sharing, and consensus-building, requires skills that are often not found in traditional, hierarchical organizations (Bergquist et al., 1995; Gray, 1989). The literature suggests these skills grow with experience, but also need to be actively cultivated within the organization (Powell et al., 1996). Because of the importance of process in designing and sustaining alliances, the time demands on

managers are high (Gomes-Casseres, 1993).

Using a skilled facilitator. Several researchers assert that a skilled facilitator can contribute significantly to ensuring effective process management and, hence, the outcome of the collaboration (Gray, 1989; Huxham, 1996; Mattessich and Monsey, 1992; Schuman, 1996). Facilitators are particularly useful when the objective is to promote understandings among diverse parties and to arrive at mutually agreeable solutions. By focusing on the design and management of the process of collaboration and by maintaining their neutrality, facilitators can create a context for parties to identify and clarify the problems they want to address, constructively resolve differences, develop a shared vision, and develop agreements for

implementing joint activities. Facilitators can also help ensure full participation by members, minimize the influence of power dynamics, and reduce the costs and time of meetings by ensuring that the process of the meeting is designed to achieve the desired outcome.

Communications

As indicated earlier, open and frequent communications are critical to successful collaboration (Kanter, 1994; Powell et al., 1996; Werner and Bremer, 1991). In their study of consortia management, Werner and Bremer (1991) found lack of communications to be a chronic problem. Not only are there physical barriers, but there are also problems in the substance of communications. Bergquist et al., (1995) argue, based on a review of 75 alliances, that since partnerships cross institutional boundaries, communications are likely to be distorted and open to misinterpretations. Therefore, it is important to have processes in place for surfacing assumptions and expectations, making decisions, and discussing the process of collaboration. Frequent communications are important for effective conflict management and frequent updates about partnership activities are critical to success. They also concluded that interactive networks that facilitate horizontal information flow typify successful partnerships. As Kanter explains, successful partnerships “cannot be controlled by formal systems, but require a dense web of interpersonal connections and internal infrastructures that enhance learning” (Kanter, 1994). Maintenance of these connections and infrastructures require frequent and clear communication, a respect for differences, and flexibility.

Ongoing communication needs occur at all levels, not just amongst the formal leaders or just among those involved in the daily operations (Bergquist, et al., 1995; Kanter, 1994). Powell et al. (1996) confirm the importance of supplementing formal contracts with informal contacts.

Experience suggests that attention needs to be given not only to strengthening communications within the consortia or alliance itself, but also within the member organizations. Directions given by a representative to the alliance may not accurately reflect interests or priorities of the company as a whole. As well, representatives may seek to protect their own research projects or advantages. Finally, Werner and Bremer (1992) caution against too much communication. If the consortium tries to respond to all the needs of all its members, the agenda can become too diffused.

Funds

Securing funds to support the collaborative venture is obviously essential. Often, however, the costs of the start-up phase is underestimated and further development of the collaborative venture is jeopardized (Mattessich and Monsey, 1992).

Of greater importance are the means and mechanisms through which funds are secured and allocated. These are common areas of serious conflict among members in a consortia. Werner and Bremer (1991) argue for the importance of each member contributing funds in order to “buy in” to the collaborative venture. They see this as important for sustaining commitment and trust.

Complications can arise, however, when funds are committed at the top, but managers at the operational level see these commitments as competing with other objectives and activities more directly under their control. Evan and Olk (1990) also argue that all members need to contribute resources, but these can vary in line with the relative size or potential benefits accrued to members. They found in reviewing four consortia, however, that members that contribute more also have more influence on decision-making. Gray (1989) aware of how discrepancies in the size, resource base, and power of diverse members can affect decision-making dynamics in a collaborative arrangement, explains that it is important to secure sufficient resources so that all parties may collaborate on equal footing. In these cases, it is important to have resources dedicated specifically to the collaborative process and to supporting full participation.

VII. CONCLUSION

The review of the literature on collaborative alliances suggests that these new organizational arrangements can bring added value and contribute positively to organizational effectiveness. This is what Huxham (1996) and Kanter (1994) have called “*collaborative advantage*”. Accumulating experience also suggests, however, that alliances are far from a panacea. Many alliances fail due to conflicts in goals or work styles, weaknesses in management, inadequate resources, or problems in communications. The conditions under which alliances can be used to generate an added advantage appear to be relatively circumscribed. The criteria of complementarity comes out clearly from the literature reviewed. For alliances to be successful, members need to be able to complement each other in knowledge, resources and skills. Alliances appear to be more likely to succeed when they are formed to address problems that no single member can do on its own. In contrast, alliances formed solely on efficiency considerations with members joining together to deliver the same service in order to gain economies of scale and reduce costs, what Kanter (1994) calls *mutual-service partnerships*, appear to be more vulnerable to failure.

It is evident from the experiences reviewed that successful alliances are management intensive and require a significant investment of resources. Attention to membership selection is critical to ensure the collaborative advantage. Careful management of process within the collaboration is also essential to success. Time and effort needs to be invested early in the collaboration to negotiate a shared agenda and ensure that all members believe that they are reaping added benefits from the alliance. Commitment and trust has to be nurtured throughout the process, it cannot be assumed. Links need to be formed at the strategic and operational levels and dense networks for communications have to be developed. Differences in organizational cultures and work styles need to be recognized and common values and ways of working negotiated. Power dynamics pervade all aspects of collaborative alliances; they need to be explicitly recognized and managed.

In summary, as Huxham (1996) argues, given the high costs and management demands of collaboration, alliances appear to be best justified and most likely to succeed in those situations where a clear

collaborative advantage can be achieved. Efficiency considerations alone are unlikely to provide the foundation of commitment required for successful partnerships.

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