

# The mythology and reality of cross-disciplinary international research

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## **The Mythology and Reality of Cross-Disciplinary Research**

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John Hagedoorn*

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### **INTRODUCTION**

In many respects this chapter is about how we think substantial progress is and is not made in social science research. Our basic argument is quite simple. Substantial progress in explaining and predicting interesting phenomena can be made when complementary perspectives are simultaneously applied. While the development and application of multiple perspectives is critical to understanding the increasingly complex domain of international business, such research runs counter to institutionalized traditions of increased specialization and creates complexities in research design, implementation, and interpretation. This essay will track the development of international business research and the factors that continue to constrain the development of the field. Current models frequently used in conducting international business research may constitute a mythological trek for progress. We will then discuss means of overcoming the “barriers to entry” in cross-disciplinary research. The analysis of international interfirm alliances is used to illustrate issues and methods that arise in cross-disciplinary research. The goal of our contribution is to link apparently different disciplinary views and underlying causal mechanisms across different units of analysis to expose complementary explanations and predictions.

### **CROSSING RESEARCH BORDERS IN AN INTERDEPENDENT WORLD**

Any firm doing business outside its home country is confronted by a complex range of contextual factors that shape and constrain its activities. Legal, political, cultural, and economic conditions must be addressed in the firm’s strategic and functional (marketing, production, human resources, etc.) activities. This requires an ability to effectively draw upon and inte-

grate the perspectives and tools developed across a wide range of disciplines. Firms with direct investment in other nations, for example, must deal with political risk—a concept that sits at the intersection of politics, economics, sociology, and finance. As noted by Klein (1990), “The real problems of society do not come in discipline-shaped blocks” (p. 35).

Nevertheless, international business (IB) research has been characterized as fragmented and suffering from a narrow vision (Sullivan, 1998a; Toyne and Nigh, 1997). IB studies often reflect a rather narrow functional focus (Inkpen and Beamish, 1994; Wright and Ricks, 1994) as well as limited geographic scope (Thomas, Shenkar, and Clarke, 1994). Stopford (1998, p. 636) notes that IB research is open to the charge of being like a kind of kitchen sink, “full of interesting observations about the complexity of the world, but providing little insight into the essential choices policy makers and managers face.”

Calls for greater discourse across disciplinary boundaries (see, for example, Dunning, 1989; Daniels, 1991), may well prove futile without an understanding of the incentives and institutional arrangements that shape the activities of IB researchers. Nearly two decades ago, Bartlett (1981) noted how the “institutional heritage” of a firm was reflected in its attention and action routines. Such routines constrained the development of new capabilities, leading to organizational inertia. The field of international business, of course, has its own heritage, which must be attended to if redirection of IB research activity is sought.

### **A Tradition of Specialization and Decontextualization**

Even a cursory reading of the literature regarding interdisciplinarity research in the social and natural sciences demonstrates that IB is not alone in its concerns regarding the isolation of different fields of knowledge (Campbell, 1969; Klein, 1990, 1996; Pierce, 1999). The Western history of knowledge creation has been one of increasing specialization and fragmentation. From the nominally unitary stream of Plato and Aristotle’s “philosophy,” knowledge about human social and physical nature has cascaded through the years. Philosophy broke into natural philosophy (later to become the myriad natural sciences) and moral philosophy (later to become the social sciences, splintering into economics, anthropology, psychology, sociology, history, and, later, political science). As our search for understanding intensifies, specialization continues with a vengeance, leading to smaller and smaller niches. As one observer has noted, we seem to be “looking at the sky from the bottom of the well, and historically the

wells have been increasing in number and decreasing in diameter” (Easton and Schelling, 1991, p. 11).

Western scholarship has also emphasized Cartesian analytical decomposition, searching for a satisfactory understanding of phenomena by understanding its component parts (Easton and Schelling, 1991). European and North American approaches in science and engineering have been similar in this regard. In the United States, the natural sciences served as the model for the majority of the social sciences. Universal truths were sought that transcended any particular society or historical period (Boyacigiller and Adler, 1997). Such an analytical, decontextualized, and universalistic approach may have been reinforced by U.S. culture (see Hampden-Turner and Trompenaars, 1993; Hall, 1976, 1981).

### **The Evolutionary Path of IB Research**

During the first half of the twentieth century, the curriculum in U.S. business schools reflected agreement among practitioners and professors. The entry-level employment needs of business firms shaped the (mostly undergraduate level) curriculum, which was often taught by instructors from the business world. The emphasis was on how to perform the functions of business. The latter part of the 1950s saw the growth of business schools, and a new emphasis on scholarship. Studies by Gordon and Howell (1959) and Pierson (1959), sponsored by the Ford and Carnegie foundations, criticized the narrow vocational orientation of business schools. U.S. business schools, concerned with establishing their legitimacy in university settings, strove to define their schools as schools of applied science. Business schools began to support research and increasingly require that their faculty members become productive scholars. In developing a theoretical base, each of the functional areas drew from a number of disciplines—marketing from psychology, statistics, and economics; finance and accounting from economics and mathematics; organizational behavior from psychology, sociology, and anthropology; and management science from statistics, economics, and engineering (Cheit, 1991). Over time, each of the transported perspectives evolved and adapted into its own “discipline.” With an emphasis on theory building and testing, departmental barriers were reinforced (Toyne, 1997a).

During the 1960s, U.S. business was largely domestically oriented. Very few research-oriented business schools existed outside of the United States, and business scholars were of U.S. origin. As U.S. firms internationalized, scholars began to discuss several functional issues (international and comparative marketing, for example) from an international perspective

(Mattsson, 1997). A number of research studies (mainly undertaken by economists) examined motivation for, and determinants of, foreign direct investment and the multinational enterprise. Much of the research during the 1970s was "undisciplined," reflecting the existing functional structures of the business school setting (Dunning, 1989).

The substantial influence of economics and finance on business and IB research can be seen in the high proportion of early studies drawing upon these disciplines. During the first twenty years of the publication of the *Journal of International Business Studies* (1970–89), finance- and economics-oriented papers combined made up 25 to 40 percent of the *Journal's* content (Inkpen and Beamish, 1994). The positivist orientation of early IB research provided little room for political, historical, or cultural complexities. This approach reflected Anglo-American economic liberalism (separation of political and economic arenas) and the economic, social, and political stability in the very limited range of countries under study (Boyacigiller and Adler, 1997; Toyne and Nigh, 1997). During the first five years of the *Journal of International Business Studies* (1970–74), 93 percent of the authors were affiliated with U.S. institutions (Inkpen and Beamish, 1994). From 1970 to 1993, the United States, Canada, Japan, the United Kingdom, and West Germany were the only countries consistently appearing in more than 10 percent of the *Journal* articles. As a research location, the United States appeared in over 40 percent of the articles (Thomas, Shenkar, and Clarke, 1994).

Following in the wake of U.S. multinationals, IB research dealt with countries and issues that were most relevant to American firms and perspectives. As patterns of trade and investment shifted over the years, IB research has focused on a wider range of geographic regions. This has been accompanied by a wider diversity in the country affiliation of IB researchers, particularly European and Asia-affiliated researchers. This apparent diversity, however, may still carry a strong U.S. perspective, as many foreign-affiliated researchers have been trained in U.S. programs before returning to their home institutions (Thomas, Shenkar, and Clarke, 1994; Wright and Ricks, 1994).

With a growing diversity of countries studied, requirements for multiple perspectives have been made manifest. As noted by Dunning (1989), a multidisciplinary approach based on economic variables may be sufficient in determining the domestic location of value-added activity by U.S. firms. This would not be the case in many countries, where political, legal, cultural, institutional, and language considerations would play a substantial role in shaping location decisions. With the growing complexity of the

global environment, we have seen an expansion in the diversity of perspectives applied to IB research.

For some time, international business was not considered a true discipline because critics claimed it lacked theory. Other disciplines had theories. And they had a large enough group of scholars to call themselves a discipline. That problem has moved into the past as international management is now heavily populated with theories because the tentacles of other, more established disciplines have reached across the narrow confines of the Atlantic and Pacific. For instance, transaction cost analysis from a remote area of economics collides with systems contingency theory from an equally remote corner of sociology and both smash headlong into a juggernaut called strategy—itsself an intoxicating mix of consulting recommendations for senior executives, industrial organization (IO) economics, organization theory, and organizational behavior. As globalization has expanded, so have these areas and most have moved into international business. Now IB is starting to become a rich feeding ground for those interested in explaining and predicting the behavior both of and within complex multinational social systems. Rather than just “applying” existing theory, the effort to explain and predict calls for “new” theory. Thus, IB is potentially at the dawn of a new wave of cross-disciplinary studies.

Nevertheless, we see a lag between the potential for integrative research and systematic work on the interfaces and interactions among disciplines. This lag can be attributed to the structures and incentives that have evolved in the academic research environment, and the perspectives and skills that need to be developed by researchers whose training has been functionally bound.

## **BARRIERS TO INTEGRATIVE RESEARCH**

### **Structures and Incentives**

The need for integrative research may be overwhelmed by the fact that most academic departments, graduate training programs, journals, and professional associations are organized along disciplinary lines. With each of these structures come gatekeepers who embody specialized criteria for acceptance regarding the appropriateness of the models and tools that are to be employed in that setting. The “lessons learned” by the doctoral candidate in completing the dissertation, for example, may constitute a socialization experience that fosters specialization and incremental approaches to research design.

*North American Mythology: "Lessons for Progress" from the Dissertation*

The prototypical empirically based dissertation begins with a rich, detailed literature review emphasizing the methodological shortcomings of the most current published materials. The dissertation will often reflect interest in one of the "hot topics" in the current literature. Nominally, it is theory based if not explicitly theory testing. The candidate's training, however, will most likely have emphasized statistical proficiency over theory building (Sullivan, 1988). The inevitable starting point is to isolate holes in the dominant theory to make an extension. Research questions are posed, the methodology is elaborated, and the "results" chapter most always shows a host of nonsignificant findings along with a few sparkling nuggets. The discussion elaborates on how the proposed increment refines the initially cited works to provide new insight and new questions for further research. The final product includes most of the research known to the key committee members. Of course, a shorter, "more polished" version will eventually be sent to a leading journal with all of the warts, blemishes, and limitations burnished to fit with those in the existing literature.

When converting a dissertation to an article, astute researchers will often send a draft to friends of their mentor for general comments hoping that these friendly critics will isolate "the hook" that will capture the reviewers' attention. (In one or two sentences the hook shows the contribution of the piece and its location in a literature so that busy scholars can quickly place it in their inventory under the categories—supporting, nonsupporting, or extensions with subcategories for the variables, sample, and methods.) The writers link the current work to what they think are "emerging classics" (including key phrases and terms) to reaffirm the worth the establishment should place on the work as being within the mainstream of the discipline. The linkage also helps make the article appear interesting and timely.

While the new North American scholar believes the editor will send his or her manuscript to one of the very prestigious members of the review board prominently cited in the literature review, such is rarely the case. Most likely the reviewers will be recently published junior scholars who know the recent literature, know the most recent methodologies, and also recognize some of the existing holes in the current literature. The author can expect page after page of comments as if the reviewer was trying to show the editor she/he was ready to be on the board. If the reviewers like the extension, the comments will often focus on small improvements or further extensions. If the reviewers see the piece as a challenge to orthodoxy, the comments focus on the natural limitations of the discipline and the study

(e.g. theoretical depth, choice of variables, sample size or timing of the data collection, measurement limitations, and the like).

Competition for academic jobs among North American Ph.D.s reinforces the perspective developed in the dissertation process. With fewer slots and more candidates, business schools became more “selective” with department chairs and deans looking for junior scholars with a string of single-authored contributions in one of a handful of “first tier” journals. The most certain way to publish before graduation is to make a marginal contribution to existing paradigms.

### *Specialization, Promotion, and Tenure*

Where three or four solid articles in cooperation with others would once suffice for promotion and tenure, we see increasing expectations for more articles nested within a single discipline all appearing in first- and second-tier journals. Since citation rates were and are often used to distinguish among journal tiers in the United States, contributions appearing in internationally oriented outlets, European or Asian-based journals, are automatically suspect. Scattered publications across disciplines (even across such subfields as Academy of Management divisions) may suggest a lack of focus and impact. As one colleague remarked, “Today’s junior scholars want to label themselves as some sort of specialized breed of dog. They wear their few journal articles like trophies from the kennel club and can encapsulate their research findings into a single unintelligible sentence filled with jargon only their mentor could understand.”

Europe has seen something of a convergence to the U.S. system in the social sciences (including business administration). Formal Ph.D. training in research schools, tenure track or career path determined by publications in leading (i.e., U.S. and U.K.) international journals (English is accepted as the modern international language of social science), and the U.S. format are more or less accepted as the standard. This has likely been reinforced through the return of young European scholars from the United States and the corresponding emphasis on quantitative research.

### **Perspectives and Skills**

Self-preservation and academic careerism driving much business research will continue to yield a mountain of small-scale, cross-sectional investigations of hot topics. Many researchers, however, will seek to develop more integrative theoretical perspectives and research inquiries. Theories and models from other disciplines may sensitize scholars to questions not usually asked in their own fields, and may help interpret, integrate, and ex-



plain diverse observations. Nevertheless, the researcher still faces a number of constraints. The sheer volume of research literature has grown to the extent that researchers may feel that staying within the bounds of one's discipline is necessary to cut the literature research to a manageable size. Moreover, the researcher's past training may have emphasized the statistical proficiency at measuring lower-level phenomena at the expense of theory-building skills.

In crossing disciplinary boundaries, the researcher may encounter different systems of observational categories and meanings. Even though the IB researcher is likely to have drawn upon findings in related disciplines in the past, those perspectives are likely to have been filtered through the lens of the functional discipline in which he or she is embedded. Toyne and Nigh (1997) argue that IB researchers often borrow from other disciplines with too little thought, resulting in misapplication of the borrowed concept, theory, or method. It may be necessary to become more intimately familiar with the assumptions and methodologies framing other disciplines to insure that adequate understanding is applied to the research problem at hand. At the same time, "core maintenance" will also be needed to keep one's career intact and sustain funding while one begins to learn the content and norms of a new scientific community (Palmer, 1999).

### **Restrictive Theoretical Frameworks**

Specialization in the social sciences has been accompanied by the development of theories that specify particular "rules of relationship" that are then amenable to measurement and hypothesis testing. Such theories may provide focus in conceptualizing IB issues, but they are also restrictive, providing a single lens in examining the problem at hand. One might lose sight of the forest for the close examination of the trees, leading to fragmented understandings of the problems and opportunities facing those conducting business internationally.

### **PERMEATING BARRIERS**

The barriers to cross-disciplinary research discussed above are socially constructed, and are potentially amenable to reconstruction. Overcoming these barriers may involve attention to four basic factors. These will entail changes in (1) institutions (gatekeepers, evaluation systems, interaction opportunities), (2) training (the researcher's exposure to a wider variety of disciplines and methodologies from which to draw), (3) collaboration (incorporating a diversity of perspectives within a cooperative body of re-

searchers rather than expecting individuals to bear the cognitive burden of disciplinary integration), and (4) the development of theory and approaches to research that facilitate the integration of different research streams and levels of analysis.

### **Institutions**

It is exceedingly difficult to motivate anyone to undertake a course of action that he does not perceive to be in his best interest. Researchers whose careers may depend on (quantity of) publication will certainly “read the signals” regarding what constitutes the acceptability and appropriateness of topics, areas, and methodologies in IB research. Published research sends such signals to prospective authors. Journal editors, editorial boards, and reviewers play a significant role as gatekeepers of the field. As noted by Thomas, Shenkar, and Clarke (1994), these gatekeepers may serve a role in updating existing mental maps of the field and creating new ones. Unless new signals are emitted, the character of existing research is perpetuated, as researchers assume that the current literature reflects appropriate practice. Because these gatekeepers are made up of those who have been successful in having their work published, a vicious or virtuous circle can be enacted, as authors themselves become gatekeepers.

A true theoretical dialog between disciplines might involve publication in journals outside of one’s “home” area, or it may entail boundary-jumping coauthorship, with one of the authors facing the prospect that his or her department will not value the contribution. Evaluation criteria used in academic departments would need to reflect the value of integrative, interdisciplinary research.

To overcome the tendency for disciplines to constitute separate social worlds, professional association membership in related disciplines can be actively solicited. The American Sociological Association and the American Political Science Association, for example, offer reduced rates to each other’s members to encourage dual membership. Boundary crossing may also be reinforced through academic appointments, usually between closely related disciplines (Pierce, 1999). Cross-fertilization of perspectives may be fostered through cross-departmental programs, interdisciplinary colleges, or the development of research centers or institutes focused on specific IB issues.

### **Training**

Educational practices will also shape the abilities and orientations of IB researchers. Just as the criticisms of the Ford and Carnegie Foundation re-

ports triggered changes in business school practices, the Porter and McKibbin report (1988) produced by the American Assembly of Collegiate Schools of Business (AACSB) may serve as an impetus for change. Among the conclusions of that report were that young faculty members are too narrowly trained in their specialties and that the curriculum lacks meaningful integration across functional areas (the report also noted that insufficient attention was given to the international component of the curriculum) (Cheit, 1991).

Personal investment must supplement organizational commitment in developing the breadth of experience and approaches to IB research. As noted by Wood and Pasquero (1997), an investment in developing a greater sense of the historical, structural, and cultural context of IB is required. Development of such a frame of mind may be facilitated through greater exposure to other cultures, learning a foreign language, getting training in comparative research methodology, and teaching experiences related to a foreign process or issue.

### **Collaboration**

Despite organizational and individual efforts, it may be very difficult for a single researcher to incorporate the theoretical, methodological, or cultural perspectives demanded of integrative IB research. Collaboration, involving the establishment of multidisciplinary and multinational teams, has been used to bring together the competencies, perspectives, and perhaps data access needed for this endeavor. Multinational teams could draw upon the more in-depth knowledge of home country societal processes brought together to be applied to a research problem (see Toyne and Nigh, 1997). Indeed, some of the same forces that have powered globalization, including advances in transportation, telecommunications (e-mail, fax, video conferencing, and computing), also facilitate the development of multinational and multidisciplinary collaborative research relationships in IB.

Though collaboration may help provide a division of labor, it comes with its own set of difficulties. The very differences in perspectives, language, and terminology that make such a team desirable also lead to problems in framing research questions, working out a plan for data collection, and interpreting results (Easton and Schelling, 1991). Palmer (1999) notes that interdisciplinary collaboration does not necessarily increase productivity, and in some cases can increase workload. Klein (1990) presents structured processes for the interdisciplinary study of problems that may help to facilitate understanding in the collaborative process. This process entails beginning with a problem statement, but involves several feedback loops as

disciplinary perspectives on salient concepts are assessed and applied (see Klein, 1990, especially pp. 191–195).

### **Theories and Methods**

Our fourth approach involves the development of theory and research approaches that facilitate the integration of different research streams and levels of analysis. As noted by Toyne and Nigh (1997; 1998), conceptual integration in IB can be facilitated through the development of a set of middle-range theories that could aid the development of a coherent theoretical structure. In elaborating on this point, we will relate the demands of integrative research to work on international alliances.

Cross-disciplinary research isn't always as much planned as emergent. It emerges when a scholar attempts to explain and predict complex social phenomena across a variety of settings with others. The phrase "with others" is key as the scholar recognizes through dialog and discussion the complexity of international operations. We the authors, with teams of scholars initially trained in industrial economics, organization theory, and industrial/organizational psychology, study international alliances. They are complex. Early examinations viewed them as something between organizations and contracts (e.g., Williamson, 1975), social arrangements, complex configurations (e.g., Thompson, 1967), or individual networks. All describe alliances. Infused into, around, and through international alliances are the connecting tissues of individuals, firms, and societies with their myriad of interests, pressures, opportunities, and threats. Alliances are important culturally, economically, politically, and intellectually. They operate in a variety of "settings," be that setting defined by nationality, by industry, by corporate "parents," or by other alliances. So we study the proverbial elephant with the blindfold of domestically developed disciplines to see first a tail, then a trunk, then some teeth, and then a vague mass. The myopia of our training, as all have progressed through dissertation-based research, makes it difficult to separate figure from background. By closing one disciplinary eye and then another we see different features. What is difficult, if not impossible, to see from a singular discipline is the fully shaped figures within its background. In essence what we need is a theoretical lens that is integrative, synergistic, and expansionary rather than divergent, additive, and narrowly bounded. Perhaps we'd best explain.

#### ***Integrative versus Divergent***

Most of the studies we have seen attempt to link alliance phenomena to an older host discipline yielding a divergent series of alliance findings

rather than showing the support given to complementary views. Integrative research may need to consider more than one causal mechanism, examine more than one level of analysis, and examine both determinism and choice.

One of the main difficulties in dealing with cross-disciplinary research in general and international alliance research in particular is the tug and pull of some very powerful underlying *causal mechanisms* embodied in the different traditional disciplinary perspectives. It is all but impossible to reconcile the apparently conflicting “models of man” (Dubin, 1969) stemming from economics, sociology, political science, and psychology. Greed, cultural subscription and affiliation, power, and self-actualization are such dominant underlying causal mechanisms that when they appear to clash, barriers are erected for protection rather than bridges for understanding. The psychologist may find it impossible to convince the economist that the need for self-actualization outweighs the drive for economic well-being just as the sociologist cannot convince the political scientist that affiliation trumps power. Such barriers reflect and reinforce “disciplinary ethnocentrism” (Campbell, 1969) and may frustrate the ability to achieve the level of cross-disciplinary consistency that is seen in the natural (physics, chemistry, biology) sciences. To us the notion that international management fundamentally rests on any singular underlying causal mechanism is foreign. It is the confluence of these underlying mechanisms operating within a specific context embedded within a specific setting that matters.

Integrative approaches may indeed seek explanations across *levels of analysis*. Parkhe’s (1991) study of strategic alliances demonstrates the integration of five levels of constructs and variables ranging from functional management (differences in management styles), policy group (strategic interests of partners), top management (ideologies and values guiding the corporate culture), national (government policies and national industry structure), and supranational (societal) levels. While researchers explore the hierarchical ordering of levels of analysis, they must also attend to processes and conditions in which each level is immersed. It is easy to see individuals as members of groups that are nested into departments that are divisions of firms that compete within industries that are part of a nation’s institutions bounded by lines on a map. It is somewhat more difficult to see an economy, a polity, an affiliation, or a culture. And it may be very challenging indeed to relate and integrate the processes that infuse relationships within and across levels.

Research and interpretation spanning levels of analysis must be conducted with much care (for example, see Triandis, 1998, regarding levels of analysis issues relating individualism to job satisfaction). Still, attention to multiple levels can help delineate the role of the multiple causal mecha-

nisms discussed above. Attentiveness to multiple levels of analysis can also demonstrate the national (legal, political, economic) conditions or industry conditions that may shape or constrain the choices available to different firms.

One factor underlying the apparent irreconcilability of different perspectives relates to the role that *determinism versus choice* plays in explaining organizational phenomena (compare, for example, the organization-environment views of Hannan and Freeman, 1984, with those of Levitt and March, 1988). Adopting a particular theoretical lens may push the researcher into a particular perspective that rules out integration. For instance, if managers possess bounded economic rationality, why not discuss both the bounds and the rationality? To continue, if managers are social animals with self-interests, why not discuss both the social system and the self-interest? By just focusing on either the economic rationality *or* the social system the findings can be linked to a host discipline. But the linkage to other studies is made more difficult. To integrate is to show how findings also reveal aspects of the “boundedness” of economic actors and the “self-interests” of social actors.

#### *Synergistic versus Additive*

As multiple factors initiate, shape, and constrain actors conducting business internationally, the impact of these causal factors must take into account the resulting complexity. The “rules of relationship” that shape IB activity over time are not necessarily captured by simple additive processes. If international alliances are complex, we are continually mystified that researchers typically emphasize simple associations one at a time. It is as if an accountant sneaked in and started counting inventory—one contract plus one understanding plus one unit of trust plus one unit of service equals four alliance units. Four alliance units equal one strategic intent. As noted by Hedlund and Ridderstrale (1997), for example, transaction cost frameworks generally take one individual transaction or a single well-defined activity as the unit of analysis, leaving aside systemic properties of sets of transactions, or of finding ways to combine several transactions with each other.

Many of the theoretical treaties cited in many alliance studies speak to the “embeddedness” of alliances. Alliances are embedded not only in more macrolevel phenomena (industries, supranational structures, and accords, such as the GATT and WTO), but also in the historical relations that shape the conditions under which alliances are formed and operate. For instance, recent work suggests that experience is an important predictor of alliance forms and success. But is the linkage additive and linear? If so, three units of

experience would be three times the impact of one unit of experience. The impact of additional experience may well be better expressed as a diminishing marginal utility notion or as a learning curve notion. Luo and Peng (1999), for example, found a positive effect of multinational subunits' intensity of experience in China and performance as measured by financial returns. This positive effect *declined* over time in an inverted U-shape fashion, as modeled by the addition of a quadratic term in their analysis. The impact of the firms' diversity of experience in China on performance appeared to remain strong over time (a linear relationship adequately modeled this relationship). Examining the potential for more complex interrelationships among variables may provide a more realistic portrayal of their roles.

As researchers develop their theoretical maps of relationships in this field, it is also desirable to go beyond simple one-way cause-and-effect relationships. Firms, for example, may not simply respond to environmental factors, but operate in ways to shape them. Factors at a higher unit of analysis (industry structure) may regulate the processes and outcome at a lower level (for the individual firm, for example), but lower-level phenomena will also create conditions affecting contiguous higher-level processes and outcomes (Toyne and Nigh, 1998). Nevertheless, Daniel Sullivan's (1998a) recent analysis of IB research demonstrates the increasing growth over time and then "sustained hegemony" (p. 847) of analog (all causal influences are assumed work in one direction only, without feedback loops) propositions in mapping IB relationships. Jeremiah Sullivan (1997) has also questioned the usefulness of our current approaches to causality, including the assumption of asymmetrical cause-effect relationships. He has encouraged the exploration of *processes* by which observed relationships are developed (such as the relationship between Japanese culture and quality emphasis) rather than assuming a direct causal relationship. When quantitative approaches to such studies are taken, they may incorporate more complex statistical applications than are generally seen in the IB literature.

### ***Expansionary versus Narrowly Bounded***

Integrative approaches to IB research seek to develop and employ theories that capture some of the complexity discussed above. But all theories are bounded. Even if successfully supported, they are limited to a specific set of phenomena in specific time periods within a specific setting. One of the key contributions of cross-disciplinary research is to begin drawing these boundaries to reveal "switching rules" that allow one to move from one theory to the next. By discussing the bounds of a theory, it automatically places the research within a broader interdependent perspective.

Such expansionary vision might come from investigating conventional wisdom in new settings. For instance Geringer, Tallman, and Olsen (2000) recently showed in a sample of very large Japanese firms that the relationship between diversification (both product and geographic) and performance varied across time and between types of firms. Their analysis went far beyond simple statistical rigor to explore the intricacies of the linkages among context, time, and firm action to promote a new conventional wisdom.

From a theoretical perspective, let's turn to "contingency" analysis to illustrate. Structural contingency theory (Burns and Stalker, 1961; Lawrence and Lorsch, 1967) suggested that specific combinations of setting and internal structure yielded economic success. The rule of relationship across settings was interactive—combinations of setting and internal characteristics yielded success. During the same time frame, work by other contingency scholars, such as the Aston group (Pugh, Hickson, Hinings, and Turner, 1968), Woodward (1965) and Thompson (1967), expanded the contingencies and the internal variables. The only difficulty was that the precise interaction among specific variables was difficult to isolate and replicate. Thus, a more general "systems contingency" view emerged as a way of placing these studies in relief against one another. Contingency theory evolved into a way of thinking about the effects of organizational architecture in larger complex organizations. Within this framework apparently contradictory findings could be integrated.

As noted by Toyne and Nigh (1998), paradigms can either contract or expand scientific inquiry. Through the development of frameworks linking levels of analysis and their associated processes, research contributions themselves are more likely to be integrated into a coherent body of understanding. At this early stage in the paradigmatic development of IB, we need not strive for holistic theories providing an encompassing understanding. However, approaches to the field that allow for exchange of ideas and cross-fertilization among theories and disciplines would contribute significantly to the field.

## CONCLUSION

The integrative challenge for IB research begins by recognizing the breadth and depth of its historical roots, the decades of fractionalism, and the typical training of the IB researcher. To follow the historical trends, reinforce them, and continue the myopia of current training to promote the development of IB is, we propose, an alluring myth. It can yield an easy career path that figuratively digs a narrow, deep well for examining an expanding



universe. The future reality for progress is, we propose, both more difficult and infinitely more interesting.

We hope IB scholars will craft integrative theoretical perspectives incorporating multiple causal mechanisms that cut across units of analysis and empirically explore these perspectives across apparently divergent settings. At their best, these new views will recognize both determinism and choice to capture more complex “rules of relationship,” moving the field beyond one-way cause-and-effect relationships. Fortunately, the challenge is commensurate with the promise—explaining and predicting in the complex domain of international business.