# Intermediate Modes and International Business

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Since 1980, firms have made increasing use of joint ventures, network-based arrangements, and other forms of intermediate transacting modes for both domestic and overseas projects [2]. However, many of these cooperative initiatives have performed poorly; estimates of the failure rate sustained by multinational joint ventures, for example, range from 37-70% of all those formed [8, 10]. Can history provide any insights regarding the determinants of successful intermediate mode operation?

This paper applies contracting theory to seven cases in order to identify factors important to the performance of cooperative business ventures [1, 4]. The first case considers aspects of the Holt-Swire-Scott (HSS) network, which engaged in serial contracting involving transport, trading, and manufacturing ventures in the Far East over a period of nearly 100 years. The second case covers thirteen European armament manufacturers who formed the Nickel Syndicate as a cooperative purchasing framework which interacted with foreign suppliers from 1901 to 1939. The third case treats International Curtis Marine Turbine and British shipbuilder John Brown Co. Ltd., who formed a pyramidal licensing structure which transferred and improved turbine technology from 1908 until well into the inter-war period. The fourth case shows how Union Steam Ship Company of New Zealand (USS) relied on an inter-organizational network, consisting of U.K., U.S., Canadian, and Australian members, to support technological innovation between 1913 and 1939. The fifth case describes Oriental Paint (OP), formed as a multinational joint venture by John Swire & Sons (JSS), Pinchon Johnson & Co. (PJ), and Chinese interests in 1932 to manufacture paint in China and in a modified form still operates in Hong Kong today. The sixth case considers another multinational joint venture, this time formed by Australian owned Western Mining Co. (WMC) and two U.S. partners, the Hanna and Homestake mining firms (H/H), which explored for iron ore briefly in the 1960s. Finally, the New South Wales Bottle Co. (NSWB) constructed a supplier chain that operated from 1909 until the early 1980s. Case selection was influenced by a desire to illustrate the dynamics of a wide array of intermediate modes involving a broad range of industries. The study offers long, chronological coverage to show the impact of changes in technology, legal, and market conditions and to assess those factors that determined longevity. In order to learn from success as well as failure, the sample includes projects that achieved all their

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objectives, some that were marginally effective, and others that failed. The overall aim of the study is to isolate some basic principles of cooperative contracting.

**Background**

The theory of multinational enterprise is concerned largely with how firms overcome the additional cost of doing business overseas by transferring abroad quasi-rent generating intangible assets, especially knowledge, which poses notoriously difficult exchange problems [6, 7]. The transactions cost literature views the different institutional frameworks that may be used for this purpose mainly as transfer mechanisms, and is concerned primarily with their transaction cost-minimizing properties [12, 13]. However, some investigators highlight deficiencies in the capabilities of a multi-national enterprise (MNE) as a factor that shapes mode selection [6].

An examination of international intermediate mode operations more explicitly from the viewpoint of all participants suggests that these arrangements can serve to aggregate intangible assets. By so doing, constituents may enhance the size of the initial quasi-rent stream and establish a platform for generating new intangible assets that yield further rents. Considering mode selection solely in terms of transaction cost effectiveness obscures those gains that can arise from cooperation and joint learning.

Game theory suggests that inter-firm cooperation depends on how well partners communicate to establish an initial equilibrium and then, by engaging in conditional cooperation, accommodate internal or external shocks that change the values within the payoff matrix [11]. There is a tendency to view cooperative equilibria in a static sense; yet, as an inter-firm relationship develops, joint learning may give rise to a series of distinct cooperative games which involve different and larger sets of resources that may be used in a dynamic fashion to exploit a progressively wider range of productive opportunities. Thus, adjustment is not necessarily just adaptive in nature, but it may support innovative activity.

Environmental conditions, such as munificence and turbulence, are important in inducing and sustaining cooperative conduct. The outcome – whether Voice or Exit – sets in train behavioral patterns that create path dependencies. Applied to an international context, where environmental conditions vary widely and where cultural and social differences may be durable and pronounced, MNEs must learn how to operate within or modify different bargaining contexts in order to sustain growth.

All of these theoretical considerations suggest that intermediate modes necessarily require extensive inter-organizational communication. This imposes significant costs but may also promise additional benefits in the form of larger quasi-rent streams, access to more diverse resource sets, enhanced learning, and higher rates of innovation. The question remains: how do the parties contain the costs of communicating and generate new knowledge?

**The Communication Infrastructure**

The answer may be found by analyzing the communication infrastructures that businessmen employed in the past to convey information and support learning. The range of these frameworks varied according to the scope of contracting activity: communication infrastructures could be specific to a bilateral relationship, they could encompass a multi-lateral network of constituents, or they could exhibit characteristics specific to geography, occupation, or industry. Contractors who had to install a customized communicating framework for specialized purposes faced heavy initial costs, while those who could rely on an existing construct (consisting of established communication lines, rules, bargaining fora, signaling media, and indicators of reputation) incurred some expenses in modifying it or adapting to it, but enjoyed lower transaction costs [3].

The elements that made up communication infrastructures varied according to partner-specific attributes, the range of contracting activity, and the type of information and learning effects needed to make an intermediate mode function effectively. In general terms, these components included some form of contract, distinctly configured information channels (including accounting systems), communicating conventions (including rules governing informal transmissions and procedures devised to contain costs), and carefully selected people placed at inter-organizational interfaces. The precise alignment of these elements reflected conscious initial design and the results of later modifications intended to ensure that different types of information reached appropriate decision-making nodes, learning centers, and executive units while minimizing bounded rationality and opportunism.

The communication infrastructure could serve several purposes: 1) it supported low-cost transfers of commercial intelligence and existing functional knowledge (technical, accounting, managerial, and marketing) relevant to a specific project; 2) it conveyed interpersonal and inter-organizational knowledge, or facilitated cross-cultural learning needed to forge an initial cooperative equilibrium. Further, by fostering a relationship-specific culture the infrastructure assisted *ex post* sequential adjustment and serial dealing based on the aggregation of intangible assets; 3) it sustained learning by using effects that were crucial to adapting technology to new environments and thereby realizing the potential of an initial rent stream; 4) it facilitated the creation of knowledge specific to an initial venture or to later projects in order to enhance the future rent stream; and 5) it provided feedback mechanisms so that partners could learn how to learn more effectively in the future.

Rather than describing each case in detail, this paper highlights and contrasts the ways in which participants used communication infrastructures to support learning activities. The discussion begins with an examination of partner selection and then devotes separate sections to contract design, the alignment of communicating channels, communication methods, and personnel requirements.

## Partner Selection

"Complementarity" is crucial in determining the advantages and costs of cooperating with a specific partner. Citing a widespread problem in the literature – determining what in fact constitutes complementarity – Geringer identified a range of task- and partner-specific variables [9]. Our cases suggest that partner assessment is not a discrete operation and often involves significant expenses.

These search and evaluation expenses were influenced by the range of a firm's existing contacts in relation to the nature of the new project. For example, NSWB incurred relatively small costs as it developed closer operating ties with local firms with which it had come into contact while conducting its day to day operations. Companies that moved into different fields, as defined by region, culture, or industry, faced higher costs but could reduce these by using intermediaries to provide search and screening services. WMC used one such figure, and the initial foundation of the HSS network also stemmed from intermediation. In contrast, JSS and PJ knew of each other, but their joint venture arose from an accidental encounter. Having invested in establishing reputations for being the last to abandon forbearance but for effectively punishing partners who did so, they attracted candidates who were dependable [5].

The HSS, USS, and OP cases also show that firms not only incurred expenses learning about each other before setting up an initial venture, but also continued to devote resources to ongoing partner assessment. These companies discovered new complementarities that provided platforms for other joint operations, some of which they developed with third parties. For example, such inter-organizational learning encouraged JSS to retain its link with PJ when they had to shift operations to Hong Kong in the late stages of the Communist revolution and form an alliance with an established operator in the colony. Swire officials quickly eliminated one potential partner and selected Duro Paint "not so much on their specific connections...and...their factory, as on account of our belief that they will make durable partners with whom we can work in mutual trust and respect" [1e, Dec. 5, 1947]. This quotation suggests that both partner- and task-specific variables were important, and also reveals that from its wide experience in joint venturing JSS had acquired a distinct, cost-reducing skill in assessing partners. This helps to explain the serial form of its contracting activities. The outcome of partner evaluation also influenced how firms designed their contracts.

## Contract Design

The contracts arranged by the sample firms varied widely in terms of the degree of formality, as reflected in the rigor with which they specified terms concerning participants' spheres of authority, incentive systems, bonding mechanisms, and adjudication procedures. Given that it is impossible to foresee all contingencies, the object of their arrangements was to strike an appropriate balance between the degree of existing trust and scope for *ex post* adjustment.

Without this, there was a danger that either extensive initial bargaining or after the fact haggling might raise costs prohibitively or undermine confidence.

Three cases provide contrasting insights. WMC and H/H devised a contract which assigned partners complementary roles and incorporated incentives designed to support serial development as one successful mineral venture would finance the next. Perhaps wishing to signal their goodwill, the partners did not include a dispute-breaking mechanism. Levels of trust proved to be inadequate and led to prolonged negotiations during which favorable market conditions disappeared. Even though the first project was a major financial success, it did not sustain repeat gaming. Without dispute-breaking machinery the players entered a gridlock that prevented them from further iron ore exploration.

The OP venture was based on incorrect specifications, in JSS's view, but their assessment of the prevailing level of trust was accurate. Recognizing the reasons why PJ insisted on a particular alignment, but convinced that its own view was correct, JSS patiently allowed unfolding circumstances to reveal the logic of its position, and modifications followed. This approach resulted in short-term losses, but these represented an investment that produced a consensus upon which the partners built a relationship strong enough to endure the turbulent conditions in China and to provide a foundation for post-war growth.

The contracts within NSWB's supplier chain were also defective in that they were asymmetrically aligned, with the result that constituents in the middle could be squeezed from both sides. NSWB forced adjustments on other members and created a legacy of mistrust. When fundamental environmental changes occurred in the 1970s, NSWB tried in a slow and unconvincing way to make further modifications, but the chain collapsed as members defected. These cases reveal that firms which achieved a balance between levels of trust and scope for modification stood a better chance of getting a second balance right, this one between the speed of adjustment and the pace of external change.

## Communication Channels

The contents and configuration of inter-organizational communication lines play vital roles in supporting monitoring activities, transferring knowledge, and generating various learning effects. This section examines the relationship between the form of communication lines and each of these functions.

### Monitoring

Monitoring mechanisms based on formal and informal channels reveal transparency of action and provide timely transmissions needed to convey assurances and preserve a cooperative equilibrium.

Some of our firms relied primarily on formal conduits. For example, the Nickel Syndicate used its commercial power not to beat down supplier prices overtly, but to acquire the constitutional means, through ownership stakes, needed to shape reporting flows and thereby monitor closely its main supplier, La Société de Nickel. Armed with accurate information from La Société and

outside sources, the Syndicate judiciously granted or demanded concessions as market conditions changed in order to gain benefits from long-term association. The Syndicate also built transparent accounting systems that enabled purchasing members to observe precisely the arrangement's financial benefits and costs. Transparency and large net gains (equal to 11% of profits from all sources for one firm) evoked loyalty. In contrast, NSWB built one-way accounting flows to obtain detailed cost data that it used virtually to dictate other members' profit levels. The result was smoldering resentment. To create transparency PJ *taught* Swire officials about the subtleties of accounting systems needed specifically in paint making.

Three examples show the potential advantages and dangers of using informal channels. First, Curtis clumsily tried to build an informal pipeline with John Brown by encouraging that firm to hire a fellow American and personal friend, S.J. Pigott, as chief turbine designer. Brown hired and retained Pigott because it needed his talent, but Chairman Thomas Bell remained suspicions and did his best to nullify the monitoring function of the link. Worse, the resulting distrust impeded communication and dispute resolution within parts of the licensing pyramid.

JSS deliberately eschewed the use of informal channels between its officials and those of subsidiary Butterfield & Swire (B&S), which managed OP, in order to avoid alienating PJ. JSS sent PJ copies of all correspondence "as a matter of routine" and on one occasion commented that a letter from B&S "...does not show quite the right spirit...[and] we are taking steps to rectify it" [1e, Oct. 19, 1934]. Aware of the potential danger of informal communications, JSS officials sought to funnel them into formal channels.

The HSS network was laced with informal channels reflected in handwritten private letters and face to face meetings between the principals of the three family firms. These conduits overlapped with formal communication lines, and in combination enabled members to confirm or refute impressions derived from one source with information from others. This design helped to nest serial contracts in cooperative equilibria and deterred opportunism. More importantly for sustaining growth, private ties provided high quality information needed to reduce uncertainty that arose when supporting ventures, often by informally deploying personal funds, that otherwise would have been beyond individuals' risk tolerances. All institutions have formal and informal channels, but the way in which they are designed and employed will determine whether they operate in opposition to undermine trust, or in tandem to promote transparency and inter-organizational learning.

### TRANSFERRING KNOWLEDGE

How firms shaped communication lines in part influenced transfers of functional expertise that enabled partners to harness their complementarities. The participants in OP's Shanghai paint project built multilateral channels that included all constituents to ensure that PJ's knowledge of accounting, marketing, and manufacturing methods flowed to JSS and B&S, and in turn that their

experience in conducting business in China flowed back to PJ. These transfers required instruction and what Swire officials called "translations" of specialized knowledge into familiar terms. In those instances when knowledge was specialized, the partners transferred staff, but these arrangements were not very effective until after 1936 by which time the parent firms had assembled an appropriate mix of personnel at the factory.

In contrast, unidirectional information flows and deficient personal contact within NSWB's supplier chain almost completely impeded transfers of expertise in distribution and logistics needed to respond to environmental change. In a belated attempt to improve relations, NSWB held a series of meetings with merchants and carters, one of whom, a Mr. Field, possessed what proved to be a wealth of hitherto untapped knowledge. Field stated that during his 30 years in the business there had been "no real liaison" between NSWB and members of its chain and recounted an array of practices that showed how the use of explicit command and one way communication deprived NSWB of knowledge at lower levels of the distribution system. Still, the firm did not react decisively. These three cases reveal that the design of communication lines, the way they are used, and the quality of interpersonal relations affected knowledge transfers.

## Creating New Knowledge

The same factors also influenced how well cooperative ventures captured learning by using effects, created new project specific knowledge, and honed learning skills.

To generate learning by using effects needed to convert from coal to oil burning technology, USS built channels that included members of the P&O group and outside firms (oil, engineering, and other shipping companies). It also improved flows between the lower and upper levels of its own organization and then established links, sometimes using personal ties, between the lower echelons of its own administration and those of other firms. From these diverse sources, USS gathered, applied, and refined procedural knowledge about how to burn various types of oil efficiently, safety practices, and the commercial implications of using oil. This knowledge was then carefully embedded in USS's corporate memory.

To create new project-specific knowledge Curtis formed channels linking designers who worked for the firms within his licensing pyramid. However, Bell's suspicions led him to impede staff visits and other initiatives intended to promote discovery. Nevertheless, the informal Pigott-Curtis conduit succeeded in designing and patenting a series of new turbines. The results might have been greater had there been more trust. Part of Curtis's success stemmed from his ability to develop improved learning techniques.

Enhanced inter-organizational learning capabilities depended on how partners developed feedback mechanisms that enabled them to use past experience to guide future action. In the Brown-Curtis case, a crisis brought about in 1915 by a lack of timely communication led Curtis and Pigott to review

past procedures and devise methods to facilitate the "continuous consideration" of problems that they encountered in working at the frontier of turbine science. Less successfully, WMC's feedback mechanisms led it to pursue a future policy of dealing with partners that had "an Australian outlook," allowing such constituents only minority stakes in future projects, and binding participants to fixed amounts of exploration expenditure. Here, feedback effects led to a retrograde policy; the firm may have learned how to select partners and design contracts more effectively, but it did not discover ways of communicating to build trust with constituents from other cultures.

The cases suggest that creativity in designing and using information channels, as well as assigning personnel to communication nodes, influenced how well communication infrastructures fulfilled monitoring, transferring, and learning functions. The communication methods business leaders employed also contributed to outcomes, and represented another outlet for creative talent.

**Communication Methods**

The techniques used to facilitate communication influenced the cost of using cooperative arrangements, the extent to which participants could build inter-organizational cultures, and how smoothly they could make contractual adjustments.

The Curtis case reveals that a shared conception of costs was essential in enabling partners to improve their methods of inter-organizational communication. To resolve the crisis of 1915, Curtis encouraged Pigott to adopt a different approach to this question: "while the cost of cabling may seem to be an item of some consequence, it really is...very small...considering the values involved, and it often results in a saving of time or money infinitely greater than the cost of cables" [1c, 29 Jan 1915]. Curtis was instructing his partner in the learning advantages that arose from using a more expensive but more timely method of communication that could sustain "continuous consideration." JSS also relied on the cable for rapid exchange and it developed a system of single-word codes that all participants used to refer to specific accounting items. The aim was not to improve security, or just to save money, but rather to enhance the precision of communication. Indeed, the code book was continuously updated to become part of a dynamic inter-organizational memory.

Firms in our sample communicated in subtle ways to build inter-organizational cultures that reduced costs and improved learning processes. The JSS and PJ letters are littered with direct courtesies intended to evoke cooperation and indirect complements to third parties in order to convey assurances. Curtis used the same devices but in a unique way. His letters to Pigott compiled a record of recognized facts and events that revealed gains from cooperation and losses caused by inadequate consultation among members of the licensing pyramid. By creating a history of inter-licensee relations, he conveyed information about member firms' reputations to promote direct communication, and he allowed cause and effect to shape behavioral patterns within the pyramid. Concerning the

Curtis-Pigott part of this construct, congratulations extended when John Brown won important orders or attained quantitative milestones were intended to map out – often in relation to some objective indicator – the progress they had made, and to strengthen their resolve to achieve future goals. The fairness and objectiveness that Curtis demonstrated in compiling this history established his personal credibility, which was vital to making adjustments needed to resolve the crisis of 1915.

A shared culture is just one instrument that can be used to facilitate *ex post* modifications. USS, NSWB, and the Nickel Syndicate all employed different types of sliding scales to accommodate automatically incremental changes in price and quantity. Contracts designed to allow such flexibility reduced haggling costs, but participants had to incur some degree of expense in adjusting the overall scale in response to major changes in circumstances as NSWB had to do over its long history. JSS relied on consistent behaviour and open communication to head off serious problems and to reduce adjustment expenses.

Nevertheless, crises are almost inevitable in any inter-organizational relationship and there are skills that can be learned to deal with them. Curtis relied on his history of cooperation, but he also calmly and logically dealt with the communicating defect that was the fundamental cause of the problem, funneled a wealth of data to Pigott to help solve a particular design problem, and provided assurances of his confidence in Pigott's ability and the direction in which he was working. There was also a personal dimension to Pigott's crisis, and through his informal conduit Curtis knew what to say and what not to say. These examples draw attention to an array of communication techniques and devices that contractors can use in innovative ways to shape the costs and benefits of cooperation.

**Personnel Resources**

The last part of the communication infrastructure consists of people deployed at inter-organizational interfaces. The cases show that communication skills and the capacity to listen are both important personal attributes.

At one end of the spectrum, H/H made a debilitating error in sending W. Buford to negotiate with WMC. Concerned only with his firm's interests, and showing no willingness to learn about a different cultural context, he quickly poisoned the relationship. In contrast, JSS demonstrated a flair in absorbing and using Chinese culture to help develop their business. In response to an inappropriate suggestion from PJ, JSS instructed them that "cooperation with the Chinese is not a matter of shareholding and dividends. Real Cooperation means that they must be associated with management" [1e, 8 Dec. 1933]. JSS had learned about the Chinese people's fundamental conception of cooperation and then interacted with them on their terms. To build the capacity to do business across cultural boundaries, JSS and the other parts of the HSS network regularly transferred staff to acquire interpersonal skills and a variety of experience. Senior management closely monitored and managed this aspect of staff development.

The history of OP shows how astutely JSS managed its own personnel and learned about its partner's people. Initially, staff from both B&S and PJ were assigned to the paint project in order to bring together the complementary skill set needed, but friction quickly arose. JSS observed behaviour and correctly identified the individuals responsible. Instead of forcing staff together, JSS relied on the power of suction to evoke cooperation; it used two men to act as an axis for promoting inter-organizational dialogue and for attracting other cooperative individuals. Then, JSS judiciously adjusted the composition of management by means of transfers and pruning until it obtained the right combination of personalities. Reflecting the power of JSS's communicating channels, the quality of its knowledge about its own personnel, and how much it had learned about PJ staff, all of these adjustments were managed from London.

## Conclusion

This paper has dissected the elements of communication infrastructures that sustain inter-organizational cooperation. The cases indicate that these components must operate in an inter-related way to provide coordinating, transferring, and learning functions. These ventures reveal a set of adjustable instruments, including contractual forms, information handling channels, and communication methods, that contractors used in creatively devised combinations to balance conflicting forces and to achieve workable tradeoffs. While history provides a checklist of instruments for consideration, it also demonstrates that *how* they were used was significant in determining outcomes. This insight draws attention to the importance of individual talent in designing and adjusting contracts to transfer and acquire new knowledge. The study highlights the need for enterprises that seek to exploit global opportunities to cultivate human capital with finely honed learning skills.

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