Case Study: 50/50 Joint Venture

Case history of successful international long-term joint venture alternative to licensing

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My topic is a discussion of a successful alternative to licensing as a means of doing business abroad—a joint venture between a U.S. partner and a foreign partner doing business in the country of the foreign partner. Asahi-Dow Limited was a 50/50 joint-venture company between The Dow Chemical Company and Asahi Chemical Industry Company Limited. In its 30-plus years of life, Asahi-Dow grew to become one of Japan's leading plastics and chemical producers with nine plant sites located throughout Japan and employing over 2,600 employees. Asahi-Dow was Japan's leading manufacturer of styrene and its derivatives and polyvinylidene chloride products. More Saran household wrap, produced by Asahi-Dow, was sold in Japan than sold by Dow in the United States.

Let's take a look back at this successful joint venture, a case study if you will. After filling you in on a little history, I'd like to take a look at what I think were a few keys to the success of this international joint venture. Then, we can reflect on what assessments or commitments need to be made by the joint-venture partners before and during the life of the joint-venture in order to create new success stories. Of course, my principle knowledge and understanding comes primarily from being on the Asahi-Dow team through the American partner; but, I would hope many of these same observations, propositions and conclusions would be made by my counterparts in Asahi Chemical.

EARLY YEARS

Really, the Asahi-Dow joint venture is a "fish story"—one that didn't get away, but, grew bigger after it was caught. Initially, Asahi-Dow was formed by Dow and Asahi to make filaments of Saran, our trademark for vinylidene chloride copolymers, to be sold to make synthetic fish nets for the Japanese fishing industry. The joint venture married two successful companies in their own right. Asahi Chemical was, and still is, one of the largest chemical companies in Japan with established raw material supply and marketing bases for such things as synthetic fibers. Dow is a leading manufacturer of plastic materials, among other products, and has a significent process and fabrication technologies base.

Asahi-Dow was founded in July 1952. The initial capital of the company was 400 million yen or $2 million. People to operate the joint venture and necessary support functions came from Asahi. The Saran process and fabrication technology came from Dow. The initial Saran filament plant was completed and production started in 1953. Using this same basic plan of people and intrastructure from Asahi and technology from Dow, over the next 10 years Asahi-Dow built plants and began marketing in several chemical areas. A Saran polymer plant was completed in 1953. Asahi-Dow started making polystyrene resins under the trademark Styron in 1957. A plant to manufacture styrene monomer was completed in 1959 and one to manufacture Saran film completed in 1960. Asahi-Dow branched out still further in 1962 with the beginning of the operation of a polystyrene foam plant for insulation products and then in 1963 with the completion of a plant to make styrene butadiene latexes for paper coatings and other uses. The expansion was fueled by success in the market place for Asahi-Dow. The company went from a sales of 400 million yen in 1953 to over 15 billion yen in 1963.

One-Way Street

As you might suspect, during these early years technology transfer was basically a one-way street. Dow assumed the primary role of delivering technology packages in the form of know-how, patent rights and continued improvements to the new joint venture. These transfers basically took the form of a series of exclusive licenses to Asahi-Dow in Japan in exchange for a lump-sum or running-royalty consideration.

Even though the flow was primarily in one direction, this set the stage for what I think is a significant factor in the successful life of the Asahi-Dow joint venture—its long-term technology association with one of its partners.

GROWTH AND DIVERSIFICATION

Even during the early years which I've just spoken about, Asahi-Dow embarked on its own technical development capability. In 1959 Asahi-Dow completed its own polystyrene development and service laboratory. While I'm sure much of the initial direction for technology development of the Asahi-Dow was to provide marketing support, it was not long thereafter when Asahi-Dow began to introduce new product lines based on its own technology. Examples include

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STYLAK resin, an acrylonitrile butadiene and styrene polymer with good impact strength and chemical resistance. It was used as a molding resin for such things as automotive and appliance parts, in furniture and toys. Other products included XYRON resin, a styrene grafted polyphenylene ether resin used as an engineering plastic with high heat, water and flame retardant qualities and COPOLENE resin, an ethylene-based ionomer resin with superior chemical resistance and flexibility. These Asahi-Dow-developed products not only provided complementary polymers to its already existing lines but also in a sense gave Asahi-Dow its own identity. With the support of its partners Asahi-Dow was able to back integrate into the research and development function.

At the same time, Asahi-Dow also continued to expand in additional areas with the help of the same tried-and-true formula, people and support from Asahi and technology from Dow. Asahi-Dow ventured into the polyethylene business in 1964 and into polyethylene foam in 1965. Further plant expansions in all the Asahi-Dow lines occurred throughout the 1960s and middle 1970s. Sales continued to rise from over 15 billion yen in 1963 to well over 50 billion yen in 1972. Asahi-Dow had now expanded and strengthened in four business areas: Saran resin, styrene and its derivatives, polyethylene and plastic foams. These were the four sectors of the petrochemical industry in which Asahi-Dow would be a prime force over the next decade. Asahi-Dow even found time and opportunity to be itself a joint- venture partner with Ciba Limited of Switzerland and Asahi Chemical in a joint venture Asahi-Ciba Limited established in 1966 to manufacture and sell epoxy resins in Japan.

TECHNOLOGY DEVELOPMENT AND TRANSFER

Now for the Asahi-Dow story about technology development and transfer. I highlight this area because it embodies what I feel are some of the keys to the success of the overall joint venture.

As already mentioned, early in the Asahi-Dow's life technology predominately came from Dow as one of the joint-venture partners in the form of technology licenses. As we've seen, already in the 1950s Asahi-Dow was back integrating into research and developing some of its own technology. This was in the form of technology for new products like STYLAK, XYRON, COPOLENE and also improvements in the basic technology received from Dow. From the beginning, it was set up that this Asahi-Dow generated technology was in fact owned by Asahi-Dow. Asahi-Dow, using the resources of Asahi Chemical, applied for and obtained its own patents on these technology developments both in Japan and worldwide. In some instances, the technology was also of interest to Dow in its further developments in the United States and other countries outside of Japan. So there were even some licenses back to Dow with technology going from Asahi-Dow to Dow in exchange for a lump-sum consideration—a nice fallout benefit from a joint-venture operation.

As Asahi-Dow matured, it added to its technical capability and developed further research capabilities. In the 1970s Asahi-Dow in many areas achieved a research/technology development parity with Dow. This was due in no small measure to the creativity of the Asahi-Dow people who were still being supported and supplied by Asahi Chemical. I think the partners saw this direction for Asahi-Dow as an excellent way to get maximum effectiveness and efficiency for their efforts for Asahi-Dow to grow and prosper.

Change Direction

This Asahi-Dow research parity resulted in a change in direction of the Dow/Asahi-Dow technology agreements. In the 1970s a series of two-way technology exchange agreements were negotiated, in some cases replacing the old one-way royalty bearing arrangements negotiated years before. These were defined-field licenses with an exclusive license in Japan to Asahi-Dow with respect to the technology transferred by Dow and a nonexclusive right to Dow outside of Japan with respect to Asahi-Dow technology transferred to Dow. They generally included rights under patents of the respective companies and know-how with appropriate secrecy arrangements. There was no limitation on sales or marketing rights. The agreements provided for ongoing transfer of technology through periodic meetings, report exchanges and individual and functional group contacts between the parties. This included some short-term transfer of Asahi-Dow personnel into Dow plants. To show you the parity, in 1980 we even had a Dow researcher make a short-term transfer to Asahi-Dow to better learn some of the latest Asahi-Dow technology firsthand. Through these technology exchange arrangements, while there was no contractual commitment as to what technology areas either company would work on, as a practical matter the companies could decide on a case-by-case basis which company had the appropriate resources and interest to carry out a certain line of research. Thus, again the agreements provided a framework in which the most efficient use of the technology partner's and the joint venture's time and effort could be spent.

An interesting aspect of these technology exchange agreements was the provision for mutual patent obtention support. Dow and Asahi-Dow would do their own initial patent filings on innovations within the defined field of the license agreements, e.g. Asahi-Dow would file in Japan and Dow would file in the United States on their respective inventions. Then we would exchange the filed patent applications. If the owner decided not to file in the country of the other, the other party could file in its behalf. Ownership remained in the originating company. Thus, if there was a Dow innovation which Dow filed a U.S. Patent Application on but decided there was insufficient interest for it to file such application in Japan, Asahi-Dow would have the opportunity to file on behalf of Dow and carry on the subsequent prosecution. Dow would have the opportunity to do the same for Asahi-Dow in the United States. Again, trying to take a practical approach to effective patent protection while taking advantage of the resources of the joint venture in Japan on the one hand and Dow in the U.S. on the other. We were not unmindful of possible conflicts of interest. If such did arise, we were prepared to give the case back to Asahi-Dow for its own further prosecution in the U.S. However, as a matter of fact, such a conflict of interest never came up.

So over the last 10 years or so of the life of Asahi-Dow, technology development and transfer was very much a dual commitment between Asahi-Dow and Dow. Asahi-Dow had become an equal partner in the technology development aspect.

KEYS TO SUCCESS

As I mentioned, this focus on technology development and transfer is most appropriate as we next turn our attention to what were real keys to this success story of the Asahi-Dow joint venture. Of course some keys were really uncontrollable by the partners. They were due to outside influences of the time, for example, rapid progress of the Japanese economy, favorable government policies for encouraging joint ventures and local technology development, and financial conditions of the times. However, I have identified at least five controllable keys to success relating to the Asahi-Dow joint venture that I would like to propose. Three of these are highlighted in the technology development and transfer portion of that joint venture.

1. The Asahi-Dow joint venture was a *marriage of strengths.* There was a *compatibility of assets* among Asahi's people contribution, support functions, local knowledge of economy, and marketing base, and Dow's process and fabrication technology base and its commitment to ongoing support of the joint- venture plants and technical development functions. These were complementary and parallel commitments drawing on the best of both partners. Time after time in Asahi-Dow's expansion activity we see the partners recommitment of these strengths. It was not a one-shot deal and sitting back waiting and hoping for the benefit to return.

2. *The partners recognized* and if not encouraged, at least acknowledged *change* in the status and maturity of the joint venture. As the joint venture grew, back integrated into research, expanding plants, expanding product areas, the partners recognized this changed relationship between themselves and the joint venture. Not only was there recognition of this change but also the partners acted on it. They maintained a flexibility to provide more people support, to provide more functional and technology support to basically change their ways of dealing with the joint venture. For example, Dow's moving from one-way technology transfer licenses to two-way technology exchange agreements.

3. As discussed, *Asahi-Dow's back integration into the research function* and the partners encouragement of this direction had to be a key to its success. To survive and grow in the Japanese chemical industry of its day, Asahi-Dow had to be able to respond to the market needs. It could not do this effectively if it was always waiting for the U.S. partner to provide technology from afar. It needed an ability to develop its own capability to respond quickly.

4. This brings me to the next key which was the *effective use of the local intrastructure support/facilities and market experience of the local partner.* This was particularly effective for Asahi-Dow because of the strength of Asahi Chemical, the local partner. Asahi-Dow could therefore pick and choose what was needed for their economy and their markets from a local source. Again, not depending on the far away partner to guess and supply these needs. Thus, the Asahi-Dow joint venture combined this availability of local support from Asahi with its internal research capability to be able to respond to the marketplace.

5. A fifth key to success is that, even with continued support and commitment, the *partners allowed the joint venture to develop* its own identity, *its own direction.* This hands-off management approach sounds easy; but, I'm sure it was at many times very difficult. Ultimately, the joint venture can only go as long as the identity and direction of the joint venture do not conflict with the goals and directions of one or both of the partners. This I cover later. By and large, the partners' commitment was support from the bottom and not dictation from the top. Particularly, the outside partner, Dow, tried not to impose its philosophy, its style, its command over the day-to-day workings of the Asahi-Dow joint venture. We had only one man actually inside the Asahi-Dow organization in its entire 30 years. Obviously, this type of interrelationship between the partners and the joint venture requires a good deal of time and effort by all three and certainly a good deal of patience.

The use of these keys resulted in a joint- development company starting out as an initial $2 million capital investment in 1952 to a company with a $50 million capitalization and over $850 million in sales in 1980.

ASSESSMENTS—LOOKING BACK

With the Asahi-Dow history before us now, we can look back to try and glean from that history what partners interested in embarking on a joint venture have to go through in the way of analysis before and during that joint venture to give it optimum chances of success. What assessments have to be made by the potential venture partners and what commitments have to be made?

First, certainly a joint- venture relationship involves risk-taking. This is more than just the dollars put into the joint venture. After all there is risk-taking in almost every form of doing business abroad whether its the risk of receiving license income in exchange for technology transferred or the risk of losing capital and other monies invested in a wholly-owned subsidiary. It's really risk-taking in the form of a willingness to give up some forms of control and direction to give the joint venture a chance to grow and develop in its own environment. In a sense, at least the nonlocal joint-venture partner has to be willing to have a certain vulnerability, to have confidence in the joint venture and the local venture partner to guide the joint venture's destiny. Loss of this control might well be expected in a licensing situation where the licensor may have very little say as to how the licensed technology is used once the transfer is made. I think what the non-local venture partner has to recognize and assess is his willingness to do some of the same, at least with respect to the management of the business of the joint venture in the local country.

Secondly, the partners have to anticipate and plan for change in the joint-venture relationship, even build in the transformations right from the start. I'm sure from Dow's perspective, even though we in many instances adapted to changes that went on in the Asahi-Dow joint venture, we perhaps didn't anticipate and therefore were having to merely react in many cases. If the partners can anticipate the need for back integration of research, possible expansion in marketing facilities, the need for additional commitments during the ongoing life of the joint venture, then the partners have a say in how that evolution is to take place and can plan ahead accordingly.

Third, with respect to joint ventures that are revolving around technology transfer, like the Asahi-Dow Chemical joint venture, the technology producing partner has to recognize that it is both a licensor and a licensee. In transferring technology to the joint venture, the technology partner is licensing-out technology developed in-house. At the same time as a co-owner of the joint venture he is a technology receiver or licensee. The goals for use of that technology by the joint venture, at least in the joint venture's mind, may not be the same as the goals the technology partner may have as a licensor. I don't think this is insurmountable. It does have to be recognized and dealt with openingly by the technology partner licensor and the joint-venture licensee.

Lastly, the potential joint-venture partners have to recognize that the joint-venture form of doing business does have its limitations, and the partners may have to acknowledge, either at the beginning of the joint venture or during the joint venture, that it in fact may have a finite life. In Asahi-Dow's case, for example, despite its separate identity there were natural ties in the marketing, financial and other service areas between Asahi-Dow and Asahi Chemical and natural ties in the technology development and manufacturing areas between Asahi-Dow and Dow Chemical. The partners and the joint venture have to work hard to see that these potentially divided loyalties don't inhibit the joint venture and the partners from working as an effective team. The case of a joint venture that evolves into competition with one of the partners always seems to be troublesome. In the Asahi-Dow situation, in the early 1980s both Asahi-Dow and Asahi Chemical were heading in the direction of committing to make linear low-density polyethylene. Another limitation on the joint-venture form which the partners have to assess is, will the goals that each partner has in mind for the joint venture continue to remain the same or at least compatible. Once either partner's goals become different or conflicting the strain may lead to the joint venture's downfall. Again in the case of Asahi-Dow, Asahi-Chemical saw Asahi-Dow as a market for its chemical feedstocks. Dow looked at Asahi-Dow as a profitable manufacturer of chemicals which profit might in part depend on raw material costs—thus, desiring to have Asahi-Dow have the opportunity to get as low-cost feedstock as possible whether or not that happened to be Asahi Chemical.

TRANSFORMATION

In the early 1980s Asahi and Dow had to go through some of these assessments I've just been speaking about relating to the limitations of a joint venture. It led in 1982 to an agreement between Asahi and Dow for Asahi to essentially buy Dow's interest in the Asahi-Dow joint venture, except for the polystyrene foam technology and plants. The split was not easy. The companies worked hard to make this a successful transformation and that's exactly what we see it as, not a death or dissolution of Asahi-Dow but a transformation into what now is hopefully a successful extension of Asahi Chemical.

Even with this evolution, there are some positive beginnings. The partners, Asahi and Dow, know each other from long association of over 30 years in the Asahi-Dow joint venture. There is ongoing contact between Dow and Asahi regarding possible technology exchanges, license arrangements and the like. After having this experience of an international joint venture, Dow is certainly in a better position to know and understand and adopt a local business strategy and practice as we seek to operate our own wholly-owned company in Japan. It was an effective way for us to learn and gain experience in dealing in a non-local market. And lastly, certainly the partners have learned experiences through the Asahi-Dow joint venture which will hold them in good stead when one or both decides to catch another fish and help it grow into a successful long-term joint venture.