Licensing In and Corporate Health

Licensing in requires many considerations; author discusses elements for success

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One of the great fascinations of business, especially when conducted on a grand scale, is that it is continually involved with the very stuff of life. Participation in a free market requires consistent vigilance because of its unpredictability. The random emergence of creativity, to say nothing of genius, provides an added dimension. Add to the recipe the vicissitudes of weather and climate, changes in fashion, cultural, historical and geographic conditions, and one begins to understand that corporate vessels, however well designed and constructed, will regularly be tested by turbulent seas. It is not surprising that of the 100 largest U.S. companies in 1917, only a handful consistently made that select group in 1945, 1967, and 1987. It is hard to stay relevant. The chances of doing so are even less if a company chooses "splendid isolation," relying solely on technology which it generates within.

Several images come to mind. Championship professional teams rarely "stand pat" at the end of their season, and always look for some key move to strengthen them at some position. In this respect, they often look to their farm teams and the college draft. They are also open to a trade, either swapping players with another team or purchasing someone — be it a rookie, utility player or superstar — from another franchise. A shrewd operator in this environment always appreciates the strengths and weaknesses of his team and has carefully prepared a shopping list.

On occasion, companies have approached the writer expressing a desire to diversify via the licensing discipline without having performed their "homework." They are promptly (though politely) informed that they are not unlike a 27-year-old man who decides to get married. He has completed his studies, is progressing in his first job, and has saved a few thousand dollars. He is unclear about the kind of girl who will enchant him, other than the fact that she will not weigh 250 pounds and have a moustache. When exposed to the right female, however, "he'll know." This approach, at least when applied to technology management, is speculative at best and very probably doomed to failure. Let us therefore examine various elements which can shorten the odds to an acceptable level.

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KNOW THYSELF

Before grafting anything to a base, it is incumbent to understand the base itself, the material to be grafted as well as the compatibility between the two. Assuming that the company desiring to diversify is "the base," its initial considerations involve two essential exercises. The first is to conduct a strengths-and-weaknesses analysis. This should encompass at least the following:

— The maximum investment the company, given its financial resources and borrowing capacity, can afford to commit in the short and medium terms to possible technology acquisitions.

— The markets and types of customers the company's sales force currently services, including those areas where it is most and also less successful in achieving optimum feasible market penetration.

— Perceived economic, social and political events or trends that could impact some area of the company's operations.

— An understanding of the reasons, whether or not controlled by the company, for its past successes and failures; also, are the positive elements still present and available for this project, and have the negative factors been corrected or eliminated?

— An inventory of the company's production skills and facilities, including the range of qualities of products that can be attained.

— Appreciation of any events in the company's history (usually one or more failures) that mean that certain types of technologies or markets should be avoided for emotional as well as commercial reasons.

— The people, including their range of talents, experience and attitude, that are currently employed by the company and available to participate in this project; also, the ability readily to attract others to supplement this personnel pool.

— Whether the company has a reputation, one way or the other, with industry or the general public that could be relevant to this exercise.

Second Aspect

The second aspect of self understanding is more subtle, perhaps much more difficult to appreciate, but no less important. It is, simple, "What is our business?" The fact that this is no mere fatuous remark may be illustrated by the following:

Professor Georges F. Doriot of the Harvard Business School invited the President of U.S. Steel to address his class in 1977. Doriot said afterwards: "U.S. Steel doesn't understand what business they are in. They are in the materials, not the steel, business. They are completely

ignorant of aluminum and plastics." One wonders where that company, currently called USX, would be today if it had become basically involved, many years ago, with its neighbors ALCOA and PPG, who respectively became leading factors in the production and sales of the other two named materials.

In 1930, Theodore Vale, then Chairman of AT&T, was asked what was "the business" of his company. His perspicacious reply is said to have been a great contributing factor to the continued success and independent existence of AT&T for 54 years, until the giant enterprise was split up by judicial decree. Mr. Vale understood the business of AT&T not to be communications, electromechanical devices, or even electronics: it was "service." By concentrating on the speed and efficiency with which AT&T customers were served, AT&T built a superb (and highly profitable) instrumentality, with which regulators were long wary to tamper.

Coats Patons, a major manufacturer of sewing thread, realized that its traditional business offered little opportunity for growth. It therefore intensely examined its operations in order to determine where it truly excelled. This exercise revealed that the company (perhaps because of its Scottish ancestry) possessed an excellent ability to exert rigorous yet flexible cost control over virtually every aspect of its production procedures. Armed with this insight about the keystone of its past achievements, the company successfully diversified into several different areas, each of which could benefit from the application of the same array of corporate disciplines.

It should be obvious that this initial stage of self examination involves substantial effort and is far from easy. The intelligence gained is, of course, not merely relevant to the exercise of licensing in, but could serve as a foundation of general corporate strategy. It is thus submitted that management should always seek to attain and maintain a keen awareness of the company's strengths, weaknesses and essential character. If a desire or need to diversify should stimulate specific attention to these issues, so much the better.

THE RELEVANT MARKET FOR NEW TECHNOLOGY AND ITS DIMENSIONS

One assumption that should evoke no argument is that the quest for new technology takes place in a highly competitive arena. Everyone is aware of the need to keep up with the times as well as with one's rivals. Whenever important scientific developments occur, the race is often to the swift. Companies must therefore not merely be internally mobilized to act, they must be aware of where and when to act.

For instance, some companies have recognized earlier and more clearly than others that new developments in electronics could have a basic impact on their business. Thus, over a period of years, Harris Intertype was able to transform itself from a manufacturer of electromechanical printing plants to Harris Corporation, a dynamic competitor in the field of computers, automated office systems and state-of-the-art newspaper production equipment. Another example, though perhaps not as smoothly executed, is the evolution of Gould, Inc. from a producer of batteries to a diversified electronics concern.

An example of arrogance, ineptitude, tunnel vision, or a combination thereof, would be the failure of the Swiss watch industry to appreciate the implications of electronic quartz movements, which permitted SEIKO, CITIZEN and other Japanese watch companies to seize significant market shares, which they have never relinquished.

For the same reason, chemical and pharmaceutical companies have recently been staking out claims in areas of biotechnology research. Also, developments in new materials such as composites, superconductivity, photonics, membranes and superabsorbents are closely followed by companies in many industries whose business can be affected.

Scientific Findings

Scientific findings of a more general nature can also have major commercial implications. The linkage between cholesterol and heart disease has inspired important changes in dietary habits, away from beef, eggs and certain dairy products to fish, poultry, salads and polyunsaturated vegetable oils. This shift has had enormous ramifications to the food industry.

Changes in taste and fashion have equally dramatic effects on other industries and their markets. for instance, when double-knit polyester fabrics fell out of favor, the synthetic fibres industry found itself with enormous excess capacity. Rohm and Haas, which had decided to diversify into that industry only a few years earlier, at the height of the polyester vogue, absorbed the biggest write-off in its corporate history. Several traditional fibres producers also closed plants or exited the business entirely.

While the combination of inside and outside intelligence would seem to be axiomatic and obvious to corporate management, achievement of a correct balance is easier said than done. The degree of difficulty of the exercise does not, however, detract from its importance to the questions of modernization and diversification, including that aspect comprising "licensing in."

THE RIGHT CORPORATE ENVIRONMENT

One should recognize that licensing in is the very antithesis of the NIH factor. This means that strong and continued pressure is needed to convince senior and middle management that the company takes this subject seriously. The most effective way to achieve this is for the chief executive officer to be widely perceived as backing — even sponsoring — such programs. The licensing-in team itself is often headed by someone with an entrepreneurial flair, although once specific technology of serious potential has been identified a more disciplined "project-manager" type should assume principal responsibility.

The persons who have the major responsibilities for the licensing-in effort should have direct access to the highest corporate echelon in order to obtain necessary decisions with a minimum of delay. They should also possess serious credibility within the company, both with regard to clout and judgment, and should not be seen as merely people who have been assigned to an activity that is largely "window dressing."

ORGANIZING AND STAFFING THE TEAM

In addition to the strategic importance of a licensing-in capability, there are also political overtones. For one thing, the research and development executives of the company, or of the relevant division of large and diversified companies, should be intimately involved in the decision-making process. This is not to render lip service but is for important substantive reasons. Many licensable technologies, however innovative, require further refinement before evolving from mere inventions to cost effective articles of commerce. This is the classical "D" aspect of R&D, and happens to be the aspect of the overall process in which corporate establishments usually excel.

Since any technology by the company will ultimately be reflected in corporate revenues, costing, marketing and sales inputs regarding possible acquisitions are also important. Whenever the scientific aspect of an item being seriously considered appears promising, its commercial implications should promptly be studied, preferably by people who would eventually have line responsibility for its success.

Another type of person who can play a valuable role in this type of effort can be described as a "gatekeeper." This is usually someone who is innately bright and verbal, who reads omnivorously (a "walking encyclopedia"), who did well academically but was unsuccessful as a corporate manager. Gatekeepers are gregarious, enjoy attending trade fairs and industry scientific meetings and possess a wide circle of business acquaintances and other contacts. They are widely liked and threaten no one. They can be very astute at spotting a licensing-in opportunity, but usually should not be entrusted with negotiations to acquire such technology, nor ultimately to manage a business activity built around it.

Another type of personality that can play an effective role is sometimes described as a "coach." This is a relatively senior technically-oriented executive, who may have been passed over for the top rung and who is usually close to retirement or recently retired. The lengthy experience of these individuals, provided they are eager to continue to make contributions to their companies, qualifies them to furnish advice and undertake special assignments as part of these projects.

The last type of personality to be considered as part of the outer perimeter deserves special emphasis, because it involves a variety of advantages frequently overlooked by management responsible for organizing licensing-in activities. This is to include, for a period of about two years, some of the brightest young technical employees recently recruited by the company, and to give them a reasonable amount of latitude for action. Their initiatives should obviously be consistent with preestablished policies and should be monitored by others, perhaps one or a committee of "coaches." After a two-year stint in which licensing in should form some significant part of their responsibilities, they should be revolved out and replaced by the next generation. This approach has been rewarding to several companies for the following reasons:

— These "young turks" are aware of the latest scientific developments, having recently been exposed to them in their academic environments.

— Their university ties should be encouraged, their membership in alumni associations should be underwritten by the company while their salaries are at modest levels, and they should be sent on visits to their professors from time to time. These contacts can help the company become exposed to new developments at an early stage. Such policies can also encourage the brightest of the then current students to consider the company for future employment.

— Ambitions of these young people to search other possible sources of desirable technology should be reinforced by promises to permit those people who identify a licensing opportunity that results in an inward technology transfer to remain with the project, and thereby accelerate their advancement within the company. This "carrot" should be tempered by a "stick" to the effect that misplaced enthusiasm that results in wasted corporate effort can adversely affect the future careers of such advocates.

— A less immediate, but nonetheless significant, potential benefit is that these young individuals are less likely to be infected by the NIH syndrome throughout their careers as a result of this experience at the outset.

In addition to this array of team members, all of whom may be expected to devote all or a significant portion of their time to this effort, close liaison should be maintained with the company's legal and patent departments, with in-house market research specialists and with the directors of different areas of research and development. Whether or not, for organizational purposes, it is decided to make all or some of these people official members of the team, their ready access, counsel and support are usually critical to the success of the entire effort.

CORPORATE DOCUMENTATION

Whether the licensing-in exercise is a continuing corporate preoccupation or merely a specially inspired initiative, it is frequently useful to prepare some sort of material, including an illustrated brochure, that tells the company story. If the end result is accurate, attractive and persuasive, it can help persuade the proprietor of some desirable technology to throw in his lot with the company that is the subject of such documentation, rather than with one of its competitors.

If a worldwide search is contemplated, serious thought should be given to having the document prepared in several different language versions, including Japanese, Chinese, Korean and Russian, in addition to the more usual French, German, Spanish and perhaps Italian.

The very act of planning and preparing the material can also prove helpful to achieving some of the foundation elements already discussed. In particular, it can highlight corporate strengths and weaknesses, help define the core of the company's business and provide a project in which the team can become better acquainted, and thereby be more effective collaborators. Furthermore, such a document can invariably be put to many other good uses in the area of public relations, particularly with the financial community, when attracting new employees and as a morale booster for the company's existing employees.

Another important corporate document to be reviewed is its disclosure agreement. Dialogues about potential

technology transfers are almost always conducted in an atmosphere of secrecy, and that fact is appreciated by everyone having any sophistication in this field. Moreover, major companies examining third-party licensing submissions invariably expect the proprietors to rely upon the protection of their patents, with certain generally accepted exceptions.* This is understandable because such recipients could otherwise be vulnerable to litigation at some later stage claiming that it misappropriated some ideas revealed during the submission, when such information may have been known all along, legitimately acquired from another source, or generated quite independently as part of the company's research effort.

The point is that some of these agreements are clumsily drafted and/or boorishly administered. Certain companies, however, utilize the disclosure exercise to demonstrate this receptivity to submissions from outsiders.

It is submitted that the reputations acquired in the eyes of technology proprietors from this exercise can influence the flow of licensing in opportunities, because companies perceived as impregnable fortresses (and they exist!) are shunned.

As discussions progress beyond the preliminary stages and the need arises for the recipient to learn more intimate details of the technology that may not clearly fall within the scope of existing patent claims, additional types of agreements can be concluded, designed to protect the respective positions of the parties in this environment.

INTERNAL TECHNOLOGY AUDIT

A byproduct of the strengths and weaknesses analysis of the company, especially of its own technology portfolios, should be an appreciation by the licensing-in team of the range of patented technology, trade secrets and other forms of know-how, trademarks and copyrighted programs that might theoretically be made available by the company for licensing to third parties in given areas of the world. This should be cataloged, and inquiries should be made whether all or portions of it might be available for licensing out in special circumstances.

This knowledge could prove useful in discussions with proprietors of technology that the company may be interested to acquire via the licensing discipline. If such proprietor would have a choice between prospective licensees, one of whom could potentially offer a reciprocal technology flow, while the other could not, the former is very likely to be preferred. The company would therefore be well advised to prepare for this possibility.

THE SHOPPING LIST

Once the licensing-in team has substantially completed the various preliminary steps recommended herein, the range of technologies of potential interest to the company should be carefully defined. This list should be circulated to the senior managers of various line operations as well as to the most senior corporate executive level for comment and approval. By obtaining this type of input and commitment beforehand, the team is more likely to receive support once specific technologies are actually under consideration.

The list should divide these technologies into three or four groups, reflecting descending orders of priority. It is also recommended that the scope of interest should include technologies that are fully developed and available for immediate use, items that are well advanced and may be ready for introduction within two years, as well as a few longer range projects which, while perhaps somewhat more speculative, have the potential to make a major impact on the company's fortunes. A minor portion (e.g. about 15%) of the team's capacity should also be reserved for unexpected events, either unsolicited submissions or subsequent discoveries, which do not fall within the scope of the approved shopping list. This "flexibility factor" is not only important in principle but has often made it possible for companies to act promptly on very significant opportunities.

SEARCHING METHODOLOGIES

Once an appropriate knowledge base and active team is in place — and preferably not before — the company should aggressively pursue its technology acquisition strategy. The documentation previously prepared should be freely utilized at this stage. The following courses of action are recommended:

— Perform a worldwide patent and literature search, accessing various existing computerized data bases. This should reveal the large majority of the personalities, companies, universities and other research bodies active in the field, as well as a number of specific technology leads.

— Arrange for various members of the licensing-in team to attend potentially relevant trade fairs. If there is a gatekeeper on the team, that person should definitely be part of the delegation. Recent company recruits should also be afforded exposure at these functions.

— Have recent recruits visit their university professors to learn about work currently being conducted there and, perhaps even more important, where the professor may think exciting research is being performed.

— Directly contact companies already known, or seriously suspected, to possess technology falling within the scope of the shopping list. If such proprietors are most active in areas of the world, or in market sectors, different from those targeted by the company, that should be mentioned at the outset.

The four listed types of initiatives are likely to yield a substantial number of relevant opportunities. As these become known to the company, they should be promptly and intensely analyzed, or else the licensing-in team could soon become swamped. This initial analytic stage is one of the most crucial steps in the entire process because it usually serves to discard 90% of the items on the table. Most of the horror stories about lost opportunities (e.g. Dr. Carlson's xerography invention was turned down by more than 30 companies to whom it had been submitted) occur at this stage. For this reason, several members of the team, with various types of attitudes, technical background, experience and senior-

*The usual exceptions are information:
(i) that enters the public domain without the fault or negligence of the recipient:
(ii) that the recipient can demonstrate was known to it prior to the submission; and
(iii) that was subsequently obtained by the recipient from a source entitled to reveal same.

ity should be involved in each decision to reject or retain for further action.

Those items which survive the initial screening should then be rapidly pursued. The following types of action could go on simultaneously:

— Technical people, whether actually on the team, in R&D or perhaps operating in a line production capacity, should understand the workings of the technology, including its relative cost aspects, at least to the extent possible given the amount of data revealed at that stage. They should compare this with the state of that art, as they know it. They should also formulate a list of questions to be raised with the proprietor at an early meeting.

— The patent department should evaluate whatever intellectual property protection is claimed for the technology.

— Marketing personnel should evaluate the sales and profitability that might be generated to the company by this technology, in the context of the company's known strengths and weaknesses as well as relevant commercial conditions. This exercise should take into account known competitive technologies.

Even before these analyses are commenced, the spokesman for the licensing-in team should be in touch with the proprietors. Initial visits and documentation can also be exchanged. If possible, assurances should also be obtained that the proprietors don't make commitments to third parties before the company is able to complete its evaluations. If there appears to be a danger of this occurring, and assuming the company considers a particular technology to be sufficiently promising, it can offer to take an option in these circumstances.

Another result of dialogues at this early stage is that it can serve to help the parties become better acquainted and thereby assess the quality of collaboration that may ultimately be expected in the event that some form of technology transfer indeed occurs. Furthermore, additional insights about the technology can be obtained via these contacts, and the parties may even be able to formulate ideas about the type of transaction that would be most appropriate.

If the company's internal evaluation confirms serious potential interest, it is recommended that the company then implement firsthand evaluations and further serious discussions promptly and on a high priority basis.

DUE DILIGENCE AND SPEED

A word about the degree of promptness with which companies react to outside technology opportunities is in order. The language of the U.S. Supreme Court in another context, i.e. "with all deliberate speed," appears to be most appropriate in this context. Delays created by inattention, inadequate staffing or an insufficient degree of interest, are counterproductive to everyone concerned. At the same time, these decisions are of sufficent importance that they must be thoroughly considered. Companies that display earnestness, sensitivity and a reasonable degree of enthusiasm during discussions leading up to formal licensing negotiations are likely to fare better. Not only will they tend to appear as more attractive partners to proprietors whose technology is sufficiently intriguing to have attracted several potential licensees, but the licensing terms eventually negotiated may be more favorable to the licensee because the proprietor will not feel the necessity of requiring various conditions calculated to promote and insure serious commitment by the licensee.

THE EMPLOYMENT OF CONSULTANTS

The program of work and the theoretical make-up of the licensing in team, discussed earlier in this article, envisage a relatively large corporation, possessing a variety of staff departments to support its line operations. It is recognized that smaller companies may wish to diversify or reinforce their existing activities by licensing in with an equal sense of urgency, and also that they lack many of the in-house facilities described. This weakness can be rectified by retaining one or more specialized consultants or consulting firms, as needed.

Indeed, larger corporations as well can benefit from the judicious employment of outside specialists to handle certain specific tasks. For instance:

— It could make sense to retain some world-renowned academic figure to advise on strategy and provide contacts in some rapidly developing field of high technology. Such a person may not only be able to identify research teams working in the precise areas of the corporation's areas of highest priority, but may also provide the type of introductions which could place the corporations in preferred negotiating positions.

— If the in-house patent department is overburdened, outside patent firms can be retained to search and evaluate patents, assigning particular partners and associates to the task who have had some specialized experience in the field.

— Specialty computerized search firms exist who not only have subscriptions and access to all relevant data bases, but who have developed a range of personal contacts that may be especially useful to this type of assignment.

— Certain foreign jurisdictions may be particularly difficult to access, requiring the aid of specialists, who may also be nationals of the country concerned. This is particularly true with regard to Japan, which has become one of the most important sources of innovations in many fields.

— It may be advantageous, from an eventual negotiating standpoint, for a major company to remain anonymous during the initial contact step and, rather, to be represented by a respected consultant. This may prevent the technology proprietor from getting "delusions of grandeur," and could thus permit negotiations to get started on a more realistic basis. If the consultant has played his role well, such consultant might continue to remain active in the serious negotiation stage, acting as a type of catalyst.

— Special mention deserves to be made of a device employing consultants whose field is described as that of a "eunuch." This occurs in a situation in which the potential licensee is so prominent or active in a particular field that it is reluctant to sign a standard disclosure agreement in the first instance. Its activities are concentrated so heavily in such area that it wishes to be absolutely certain that some new revelation might not eventually create the possibility of litigation over a subject matter of which it is already informed. In these circumstances, a third party — frequently a recently

retired senior technical executive of the potential licensee — who is thoroughly familiar with the potential recipient's technology portfolio, is retained to make a preliminary evaluation of the submission and inform the recipient whether or not it is indeed knowledgeable about such technology. Such consultant may also make a preliminary qualitative assessment of the technology revealed to him. He, i.e. "the eunuch," would sign a secrecy and nondisclosure agreement with the proprietor prior to the exposure. By thus insulating itself in the first instance, the proprietor may be able to protect itself from an unnecessary problem, at the same time as it does not forego an opportunity.

Aside from the range of specialized skills which outside consultants can bring to licensing in exercises, there is also the more general dimension of contributions by consultants. This is the consultants' greater ability to disagree, to be candid and to recommend unorthodox approaches to senior management than can in-house employees, whose entire income is usually dependent on their continued acceptance by corporate superiors. Consultants may lose a client should their views prove unpopular, but usually have several other clients to fall back on. This "extra dimension" of realism is considered to be invaluable by many corporate project managers, particularly in the area of licensing in where positive decisions can have long run significant implications.

A SPECIAL WORD FOR NON-AMERICAN SEARCHERS

All of the foregoing considerations are deemed to apply regardless of the locus of the company seeking to diversify. Foreign companies attempting to locate licensable technology in the United States should take note of certain additional considerations, namely:

— Americans are notoriously weak in foreign-language ability and often tend to judge others in accordance with the quality of their written and spoken English. Particular care should therefore be taken to be certain that their correspondence, brochures, etc. are grammatical and well written. If the foreign company's senior executives and negotiators are somewhat deficient in their language skills, they should be accompanied by persions who are excellent in English.

— Foreign licensees of American technology have sometimes, after the passage of time, become competitors of their original licensors. Sensitivity and candor on this point can be helpful during the "get-acquainted" and negotiating stages.

— The possibility of purchasing components, intermediates and odd sizes should be discussed.

— There should be awareness of certain U.S. legal institutions that are taken seriously by American companies and their lawyers, in particular the antitrust laws and the regulations governing the export of militarily significant technology.

— The foreign company should be seen to be "modern" in its outlook and equipped with up-to-date data processing, CAD/CAM, and communications equipment, when appropriate. Much of this will probably be necessary in any event for implementing the technology transfer and in the course of administration of a license.

— The Licensing Executives Society commands a high degree of loyalty and respect of its members all over the world. If the potential foreign licensee has any LES members in its employ, and if it is noted that the U.S. proprietor is also represented in the Society, this link might usefully be exploited, especially during the initial contact.

One somewhat less formal note: Many U.S. businessmen are still impressed by the unexpected receipt of an overseas telephone call. This can be a dramatic way, especially at the outset of a dialogue, for a prospective European company to make a strong impression on a U.S. company which possesses apparently relevant technology. With a modicum of research, the name and phone number of the appropriate person to be contacted can be obtained. An aggressive approach such as this, provided it is backed up by real substance, has worked well for foreign companies in the past.

The considerations regarding the form of the technology transfer are equally applicable to potential licensees as well as licensors. The full spectrum, from options through acquisitions, should therefore be in the minds of the parties in order to achieve desirable "win-win" situations.

ENDGAME STRATEGY

The conventional wisdom is to exit markets in decline and to seek those that are in their ascendancy. This is consistent with the dog/star analogy originally proposed by the Boston Consulting Group, and which has been widely accepted. This is often the motivation behind a company's licensing-in strategy.

There is an interesting exception that "probes" this rule. The leading proponent is Professor Kathryn Harrigan of Columbia Business School. She has concentrated on the study of declining markets and strategies for surviving in them. Her catchphrase is "the last iceman always makes money." Thus, there are still isolated companies that are not merely surviving, but are quite profitable, in many markets that one would imagine to be landmarks of obsolescence. These include vacuum tubes, velvet, computer punch cards, leather drivebelts, wooden airplane propellers, harpoons and even buggy whips.

These are, of course, curiosities in which there may be but one surviving entity, with all the other capacity having been destroyed or cannibalized. The point is mentioned, however, not merely for the sake of curiosity or bemusement. Rather, it illustrates the point that creativity in the development of many types of technology — high-tech, low-tech, old-tech and even no-tech — can drive profitable businesses of many types. This is one of the fascinating aspects of technology management and a reason for its primary importance in a changing world.

Although "licensing in" can be considered as merely the other side of the coin from "licensing out," it involves many different considerations, particularly in preparing for the exercise. In many ways, licensing in is the more difficult of the two, particularly since the preponderance of risk in technology transfers usually resides with the licensee or acquirer. Common denominators between the two, however, are the need for high-quality personnel, a multi-disciplined approach, attention to detail, peripheral vision and flexibility.