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# STRENGTHENING NEGOTIATING CAPABILITIES IN THE ACQUISITION OF HARDWARE AND SOFTWARE IN LATIN AMERICA*

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## Summary

This study is based on a series of interviews in November and December 1985 in the eight member countries of REDLAC, the Regional Network for Microelectronics in the ECLAC Region.[1/] Businessmen, government officials and representatives of REDLAC focal points in Argentina, Brazil, Cuba, Guatemala, Jamaica, Mexico, Peru and Venezuela co-operated in the survey.

The report attempts to summarize as best it can the problem areas emerging from the questionnaire, personal interviews and discussions. The respondents included unhappy importers as well as fairly satisfied sales representatives. Obviously a variety of political and business factors influenced individual reactions.

The evidence obtained by the study, patchy in parts, reinforces the general view that the future of the electronics industry in Latin America depends not only on the region's technological progress but also on its marketing skills. Upgrading human resources in marketing should, therefore, be a necessary component of the overall policy of industrial development.

At the outset the report demonstrates the seller's dominance in the computer hardware and software markets and analyses the uneven reciprocity in contract agreements. The study then discusses government policies dealing with importation of computer technology. Finally, it examines the differences in the economic and legal mechanisms between the importing countries and the exporting countries, focusing on how these determine the importers' bargaining position and professional skills during the negotiating process. The broader economic and political aspects of these complex issues are beyond the scope of this study.[2/]

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# I. PATTERNS OF DOMINANCE IN HARDWARE AND SOFTWARE MARKETS

## 1. General observations

The region acquires its large-scale and medium-sized computers, including systems software, mainly from foreign or foreign-controlled firms. With the exception of Brazil where local manufacturers control the market for small and mini-computers (accounting for almost 50 per cent of total sales of data processing equipment on the domestic market),[3/] large-scale local manufacturing of mini-computers and peripherals exists only in Mexico, Argentina, Venezuela and Cuba. During the early 1980s even the more advanced countries in the region imported about 90 per cent of the domestic demand for computers.[4/]

The proportion of imported application software in the region is much less today[5/] because almost all the major computer users produce software in-house. However, software production in-house is becoming more cumbersome and expensive and will likely be replaced gradually by the less costly and more efficient services offered by the fast-developing software houses. The technological and marketing lead of foreign firms, especially those based in the United States, is also unquestionable. Their market penetration in the region seems to be much deeper than official statistics would indicate. Some have established local software houses especially tailored to the needs of Spanish-speaking clientele.

These trends would suggest that even countries like Brazil and Mexico that have achieved considerable success in the development of their computer industries have to rely on external sources of hardware and software products.

## 2. Risks inherent in long-term contracts with a sole supplier of technology

The seller's dominance and restrictive contractual clauses can be traced to the unequal bargaining leverage between buyer and seller and to the buyer's inadequate commercial and legal experience. A recent dispute between a leading multinational and instrumentalities of the Government of Guatemala illustrates this uneasy partnership.

At the beginning of 1985, the multinational informed its public-sector clients that their regular payments for equipment rental and for software and computer services would be increased by about 40 per cent. The user representatives protested the allegedly unprecedented price increase, describing the new terms as unjustified and based on one-sided contractual stipulations imposed on them initially. They also claimed that the drastic increase was inconsistent with previous business practices of both parties.

After prolonged negotiations, the multinational promised to suspend the hike. But by the end of the year, equipment rental, maintenance, software and services were increased again--this time by a margin of 70 per cent. The users responded with new protests. The Government of Guatemala issued an Executive Order empowering a newly established interdepartmental commission to renegotiate existing contracts on hardware, software and computer services. Although the commission did not have the power to set terms of payments arbitrarily on the old contracts,[6/] it was given a mandate to establish binding model contracts--but again, in consultation with suppliers of computer technology and services.

The agreements between the government agencies and the multinational lacked standard clauses protecting the client against arbitrary actions by the provider of services, whereas the latter would have been given the benefits of a long-term and privileged position in the client country. Almost all government instrumentalities and institutions such as educational and data centres have given the multinational the benefits of a long-term, de facto exclusive contract without requiring in exchange some form of guarantee against exorbitant price increases. The contracts lacked price escalation clauses stipulating that rent could be increased only to reflect mutually agreed increases in operating expenditures and labour costs and increases in the Consumer Price Index.

Clients in markets dominated by a single multinational or by a few firms complained that the quality of software and maintenance services suffered from lack of competition. A recent report prepared by Guatemala's Comision Nacional de Computacion states that the relationship between suppliers and clients favored the interests of the supplier, with the client at the mercy of the supplier's pressures and unsatisfactory services. The report demands that supplier representatives be prevented from unduly influencing the decisions of government procurement officers.

## 3. Problems of tie-in agreements and "unbundling" policies

A supplier may sell hardware equipment only to a client who agrees to acquire a second product or a "cluster" of related services. The "tied" products are usually software, peripheral equipment, maintenance and training services. The supplier's economic leverage and the quality and price of his products and services often influence the client's degree of satisfaction with the agreement.

Under most of the transfer of technology laws in the region, the requirements of "unbundling" (i.e. pricing each product in a package separately) apply mutatis mutandis to offers comprising hardware, software and computer services. These laws enable the client to compare the financial terms proposed by one supplier with those of other competitors. The importer then has the opportunity to buy each product from the least expensive supplier.

Implementation of unbundling policies in the area of computer products is not easy, however.

Although application and support software can be treated as separate and distinct products, it is doubtful that so-called basic software can be treated as an individual item. Since it serves to facilitate the proper functioning of the computer, basic software can be characterized as an indispensable component of the machine. Of course the central processing unit and its peripheral equipment can operate on alternative systems software obtained from sources other than the mainframe manufacturer. In such a case, however, the mainframe manufacturer will usually refuse to offer any substantial maintenance guarantee. Similarly, the supplier of basic software will be inclined to blame the manufacturer of the main equipment for any defects discovered during the warranty period.

Another complication in unbundling computer packages is that unless the buyer has his own well-trained and versatile technical staff, purchasing major package components from different sources raises compatibility problems among the individual elements, leading to an increase in maintenance costs. Service personnel in leading computer firms usually specialize in their own products. Besides, some countries and regions have only one service supplier; when a choice does exist, the differences in services are insignificant.

The apparent simplicity of acquiring a full line of computer products from one source presents another obstacle to unbundling: Purchasing officers, especially those from the public sector, prefer the ease of acquiring a whole package. These agreements may be voluntary, but in fact clients are deprived of the potential benefits of unbundling because of their lack of technical and legal expertise, the risks involved in assembling a final product with components from different sources, and other valid commercial considerations.

To sum up, overcoming the negative effects of "tying" and taking full advantage of "unbundling" depends primarily on the importer's technological and procurement skills and on the general level of industrial development within the client country.

4. Restrictive clauses and other contractual aspects of software acquisition

Computer programmes may be classified according to degree of standardization: package-software and custom-software. Legal and commercial considerations in the acquisition of one programme category are so different from the other that they should be discussed separately.

Package-software programmes perform standard and pre-determined functions and are compatible with a variety of computers. The developer of custom-software sells or licences his product to a specific user after meeting requirements specified by the client; the developer of package software offers it to unknown customers through mass-market distribution centres, without individually negotiated contracts.

Despite the controversy on whether or not computer programmes can be copyrighted and protected under the concept of trade secrets,[1/] both domestic and foreign developers of software use the same legal caveat applied in the United States and other developed countries. A buyer of package software in Mexico or Argentina is usually made aware that he can use the programme only in accordance with the terms of a written agreement attached to the package. The programme contents are normally described as copyrighted, trademarked, and/or held by the developer under his proprietary rights. The typical license contains a plethora of restrictive clauses forbidding unauthorized copying, upgrading or rewriting of the programme. Upon the

agreement's expiration, the package is meant to be destroyed or returned to the developer or his representative. As a rule, the developer excludes all liability for infringement of third-party rights and offers minimal guarantee, if at all, that the programme will fit the specified function or meet standards of marketability.

The validity of many of these contractual clauses is questionable, and enforcing stricter legal standards on the developer to protect the consumer presents a formidable task. Rampant piracy of software may lead to lowering of prices but at the same time it discourages capital-intensive investments in software projects within the region.

The role of procurement and legal staff is more crucial in the acquisition of custom software than in package software. In custom software the client can specify his own technical, commercial and legal terms. Again, however, the suppliers dictate the contracting pattern.

Users from the public sector pointed out that government procurements invariably emphasized buying at the lowest initial cost. Procurement officers were often unable to assign precise values to software support, maintenance services and upgrading capabilities. Payments clauses usually stipulated that suppliers had the prerogative to increase prices and that periodic payment of royalties would not be linked with predetermined performance guarantees.

Typical features of custom-software contracts are: Restrictions on use, disclaimers on warranties, short-term guarantee periods, and vaguely defined performance tests, start-up and consulting services. The study did not uncover any contracts providing for remuneration based on the concept of a diminishing scale of royalties and maximum royalties, or a downward adjustment of prices if the user's right to use the programme were to be adversely affected by third-party rights. The contracts revealed that the client's recourse in case of breach of warranty were severely limited in scope and duration. They were usually reduced to a "best-effort" promise to eliminate the bugs in the system without any compensation for direct and consequential losses.

As local users become more sophisticated, they tend to rely on small foreign software houses for equipment supplies. These firms sometimes offer excellent products at bargain prices but are often undercapitalized. When a firm is declared insolvent or bankrupt, its customers run the risk of having their license terminated by the firm's trustee. The customer then loses access to past and future improvements on the equipment and may also be deprived of the benefits of software maintenance and consulting services. To reduce these risks, the client should require the supplier-firm to agree to special bankruptcy provisions. A copy of the equipment's source code[8/] and improvements would be deposited with a third party who would be obliged to release them in case the original supplier-firm can no longer deliver the goods. The third party would also be required to perform additional obligations for the customer.

Clients entering into long-term contracts with less well-known foreign software houses should check carefully suppliers' financial standing and their representatives' credentials. In one software agreement in Mexico, the representative of a U.S. supplier described his firm as a corporation organized "under the federal laws of the United States". Matters pertaining to the creation and organization of corporations happen to be within the exclusive domain of state laws. Such misrepresentation of the supplier's corporate identity calls for vigilance and speedy verification.

## II. GOVERNMENT PROCUREMENT PRACTICES

Public procurement practices in hardware and software acquisition differ from country to country in the region. Government departments and public utilities are among the largest buyers. This enormous purchasing power gives them substantial leverage in negotiations with multinationals. State procurement programmes can be used as instruments for supporting local firms, promoting innovations and providing the public sector with the best available product at the lowest price.

The principles underlying public procurement offer obvious advantages but their implementation is far from perfect: Governments are composed of departments representing often conflicting interests. Identifying the

national interest is not as easy as it seems in practice. State purchasing agencies rely on a preferred list of firms, often exclusive suppliers, thus limiting competition and distorting trade. No public institution is immune from the lurking dangers of dishonesty, incompetence and inefficiency.

Some essential features of an effective public purchasing policy are: a system of interrepartmental co-ordination; consistent policies and clear guidelines; and competent procurement staff.

Many countries in the region have administrative agencies specifically responsible for policies in data processing and electronics; however various state bodies also have authority over public procurement orders, imports, financing and standards. With the exception of Brazil, countries in the region do not have a co-ordinating body for resolving interdepartmental disputes and offering financial support and professional advice.[9/]

Many respondents pointed out the lack of co-ordination among the government ministries in the procurement of hardware and software. Unnecessary duplication of hardware equipment in various ministries seemed to be a major problem in several countries. Generally, there were no inter-agency authorities empowered to transfer equipment between departments or to arrange for joint use of hardware and software. An expert in one country estimated that between 70 to 90 per cent of computer equipment in the public sector was underutilized. Another respondent complained that several government departments negotiated and acquired, independently of each other, the same computer programme from the same foreign supplier. None of the individual buyers was able to utilize the product fully.[10/]

Even Brazil, whose Secretaría Especial de Informática (SEI) possesses broad regulatory powers, does not have any comprehensive guidelines governing government procurement of automatic data processing equipment, software and related services. Specific guidelines on procedures and on technical and legal standards would improve the efficiency of public purchasing agencies and would clarify government policy within the public sector and to foreign suppliers as well.

Procurement guidelines are deemed necessary because the buyer of hardware or software from a developing country is less familiar with the intricacies of the business than his foreign counterpart.[11/] Further, evaluating a

contract solely on the basis of existing transfer of technology laws does not sufficiently take into account the contract's socio-economic impact in the client country.[12/]

No doubt, comprehensive and specific government purchasing regulations would help procurement staff strengthen the bargaining leverage of developing countries in the negotiating process, but there is no substitute for cumulative commercial and legal experience over a period of time.

Ironically, overly strict technical and legal standards can turn out to be counterproductive for the buyer. By imposing sweeping warranty and technical service obligations on the foreign supplier, the Government may trigger price increases over which it has no control. Likewise, excessive technical standards or "bench-marking"[13/] requirements in the bidding process for government contracts could increase the costs of preparation work, thus eliminating smaller, often local firms from the competition. In preparing their purchasing guidelines, Governments in the region could benefit from a study of developed countries' government procurement procedures.[14/]

## III. IMPACT OF THE LEGAL ENVIRONMENT

Have existing transfer of technology laws, model software contracts, standards, and laws on protection of computer programmes strengthened the bargaining position of these countries in the region vis-a-vis foreign suppliers?

The evidence is not conclusive and available facts are subject to conflicting interpretations. Some countries, particularly Brazil, Mexico and Cuba have developed their domestic computer industries considerably. Others, like Argentina, have regressed technologically. Some commentators have stressed the fact that the drastic stagnation of the electronics complex in Argentina took place precisely in the era of "opening the markets" in 1976-1983.[15/] During the same period, Brazil, with regulatory schemes and government involvement underlying its industrial development strategy, witnessed an unprecedented growth in its computer industries.[16/] But the

State's active role, complemented by detailed and even stricter transfer of technology laws in Andean Pact countries have had less beneficial effects on the industrialization of countries like Peru and Venezuela.[17/]

These experiences suggest that government procurement practices and other forms of state intervention--when combined with flexible and realistic transfer of technology requirements, and if carefully conceived and skillfully implemented--can provide developing countries with effective instruments to strengthen their negotiating capabilities in technology acquisition.

Many respondents, especially those from the private sector, noted that detailed transfer of technology laws discouraged foreign suppliers, thus creating additional barriers to new sources of know-how.[18/] Leading Venezuelan lawyers felt that transfer of technology authorities should change their approach by evaluating the pros and cons of a contract based on its overall social and economic impact instead of applying formal legal criteria.[19/] The availability of well-trained personnel is crucial to a proper evaluation of contracts.

The task of implementing government controls on transfer of technology in the computer field, especially package software, is difficult, if not impossible. Software can be transferred through standard means of communication, e.g., through the telephone, an area outside the reach of government authorities. Despite Brazil's introduction of administrative and fiscal measures to enforce registration of transfer of technology transactions, the authorities acknowledge that they still have not been able to establish effective barriers to the illegal importation of foreign-made software.[20/] SEI and INPI (Instituto Nacional de Propriedade Industrial) have been working on new guidelines on marketing officially imported software giving the supplier an opportunity to sell to clients in the public sector and offering him some legal protection against unauthorized copying.

Representatives of the private sector, including potential users of computer programmes, claim that their preference for imported software offered on the black market is dictated simply by quality and price considerations. Imported package software is perceived to be cheaper than and superior to locally developed programmes. Imported software is sold in the region on an

incremental-cost basis or simply copied and distributed without authorization. Apart from Mexico, where programmes are covered by copyright laws, countries in the region have no legal precedents giving the developer proprietary rights over such intangible goods.[21/] As long as a prospective software developer has no assurance that his product can be protected against copying, he will always be reluctant to invest in this field.

Some government officials warn, however, that patents or copyrights would offer too much protection to foreign firms. Thus, SEI encourages computer trade associations to study alternative measures to protect software developers such as through a penalty system and a code of ethics. Local producers of software and hardware favour either a copyright or hybrid form of protection for computer programmes. They point out that a simple and inexpensive system of registration that establishes ownership of a programme is an essential incentive for domestic firms to make larger investments.[22/] Some of the respondents indicated that the present situation inhibited inter-regional exchange of software. On the other hand, there was a consensus that grants offered to software developers should be limited to five to ten years and take into account the user's legitimate interests, for example--allowing the user to modify the programme.

## IV. PROFESSIONAL SKILLS OF PROCUREMENT PERSONNEL

Upgrading technical skills of personnel and, to a lesser extent, their managerial skills is the thrust of secondary and tertiary level educational programmes sponsored by universities, trade associations and government agencies in the area of informatics. Detailed government directives issued recently in Brazil, Venezuela and Argentina address personnel training principally in software research development and production. SEI in Brazil also recommends introducing graduate courses in management of software production. However, these programmes fail to address training of procurement personnel, especially businessmen and lawyers.

Respondents complained that universities offered almost no specialized courses in, say, software engineering.[23/] A respondent from the public sector in Buenos Aires could name only two retired professors as specialists

## Notes

1/ Economic Commission for Latin America and the Caribbean.

2/ See, for instance, H. Hochteff, "Government Policies for the Data Processing Industries in Argentina, Brazil and Mexico", UNIDO, ID/WG.440/7, 1985; "Survey of Government Policies in Informatics", UNIDO/IS.526, 1985.

3/ H. Hochteff, op.cit., p. 38.

4/ For instance, Argentina, ibid, p. 8.

5/ Software purchases account for 1 to 3 per cent of total expenditures and as a proportion of total electronics equipment imports within each country in the region. For instance, in 1982 Venezuela's computer programme imports amounted to 54 million bolivars, or approximately 2 per cent of the total value of its electronics imports.

6/ See, the Guatemalan Hardware and Software Procurement Order of November 21, 1985.

7/ This situation exists, for instance, in Venezuela.

8/ The supplier usually restricts his client's access to the source-code, thus preventing its modification and upgrading. See, further C. Correa, "The Commercialization of Software", UNIDO/IS.574, 1985.

9/ But even Brazil's Secretaría Especial de Informatica (SEI) must co-ordinate its policies and decisions with the Instituto Nacional de Propriedade Industrial (INPI), Secretary of Federal Revenue, Central Bank, Ministry of Finance and others.

10/ Unless specifically authorized by a respondent, the author does not disclose the identity of his information source.

11/ See C. Correa, op.cit., p. 84.

12/ In a similar context, H. Hochteff criticizes a recent resolution of the Argentinian Government on State purchasing of data processing products. The resolution stresses that ensuring compliance with existing internal buying laws "does not add any specific preference", which is a precondition for the success of the new programme. Op.cit., p. 18. Transfer of technology laws in Brazil and Mexico contain special rules governing some aspects of evaluation of software contracts.

13/ "Bench-marking" is a requirement in the bidding process whereby the potential supplier is required to demonstrate that its product is capable of performing specific functions. On potential anti-competitive effects of this procedure, see B. Gilchrist, M. Wessel, "Government Regulation of the Computer Industry", 1972, p. 14.

14/ See for instance documents and findings presented by B. Gilchrist and M. Wessel, ibid.

15/ H. Hochteff, op.cit., pp. 9-10, 43.

16/ Ibid.

17/ Some of these countries, e.g. Venezuela and Ecuador, have liberalized their transfer of technology and foreign laws. See Decree 656 of June 20, 1985, on Foreign Investment and Transfer of Technology.

18/ For instance, in Venezuela the list of "forbidden" clauses covers 23 practices. Peru's legislation lists about two dozen restrictive practices, only some of which can be exempted under specific circumstances. See Resolution 675-78-MG-EF of November 24, 1978, "Sobre Contratos de Importacion de Tecnologia".

19/ An opinion stated in a circular letter of August 15, 1985, from the Caracas Law Offices of Matthies, Klahr Zighelboim and Colmenares to their clients.

20/ Recommendations of the Special Commission on Software and Services, 1981, item 4, Brazil.

21/ According to INPI, two cases pending before Brazilian courts may clarify the legal status of software.

22/ Opinion stated by Mr. A. Masquita, President of the Brazilian Association of Producers of Computers and Peripheral Equipment.

23/ Recommendations of SEI, 1981.