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23 - 24 August 1971

ATTITUDES OF UNITED STATES AND EUROPEAN ELECTRONIC
COMPANIES TOWARDS VENTURES IN DEVELOPING COUNTRIES 1/

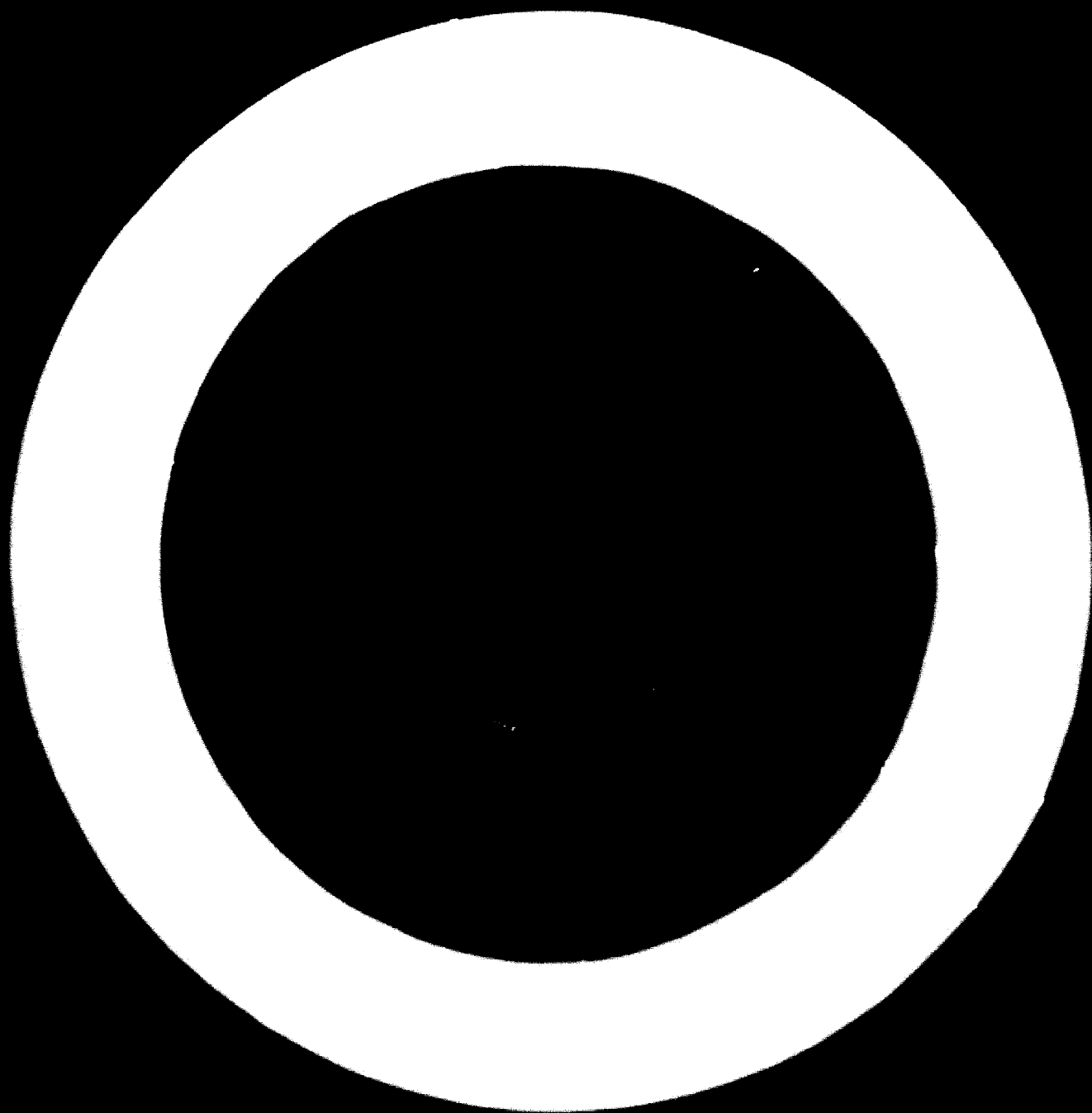
by

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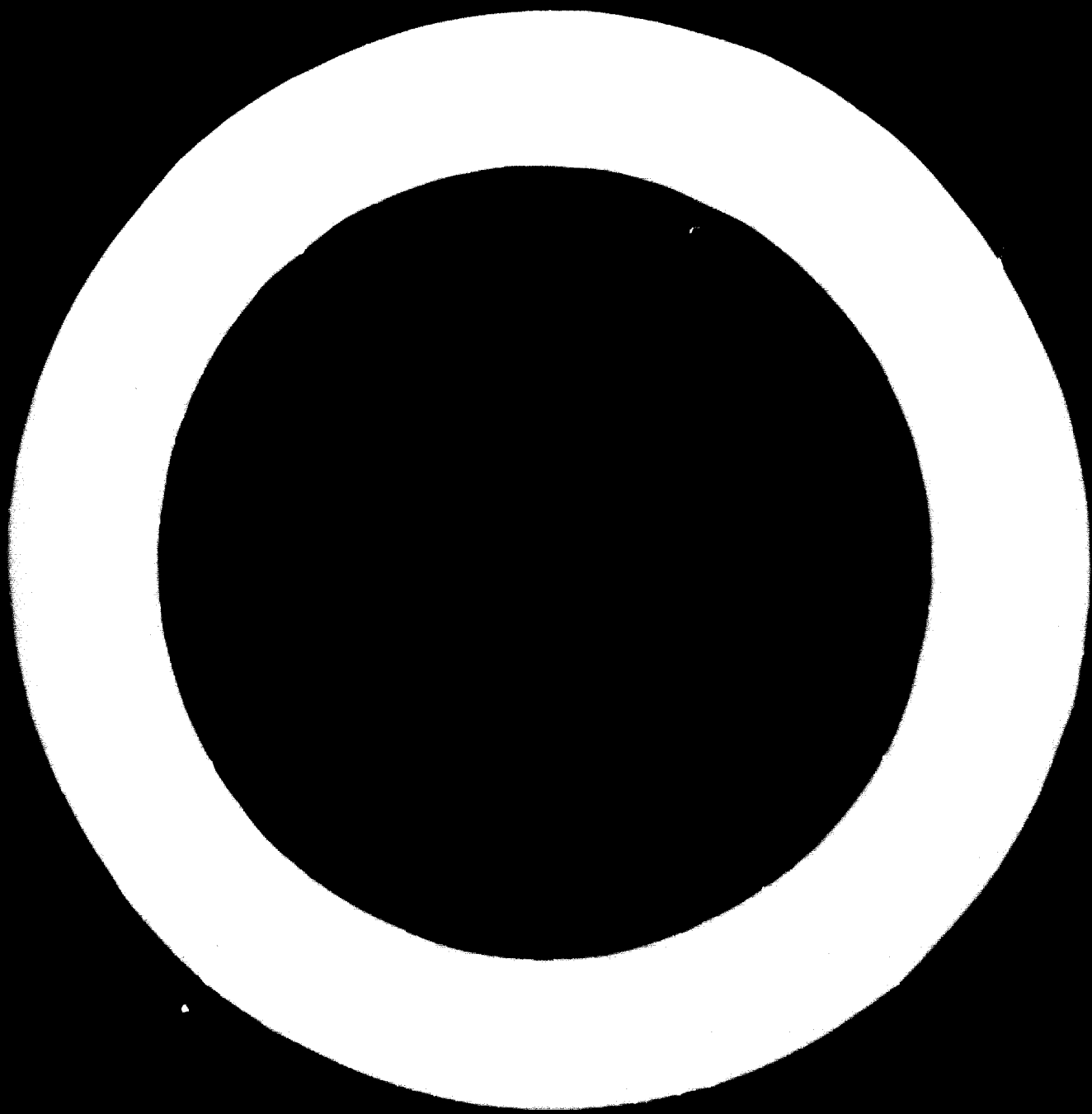
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1. INTRODUCTION

Developing countries wishing to introduce electronic industry into their national economies depend on technology and commercial know-how transferred from the 'Western World' and Japan.

In practice the process starts with the transfer of assembly operations of electronic equipment resulting in importation of considerable quantities of electronic components which in turn sets up the question should or should not the country invest in the electronic component industry and if so, which technology to choose, where to obtain it, etc. In view of the increasing number of developing countries wishing to follow this path, the recent changes in the pattern of trading of technology 'donors' and the impact of the new technologies on electronic products it was felt that views of some of the actual and potential 'donors' should be sought on the subject.

Consequently, a programme of interviews in Europe and the US was commissioned by UNIDO for the purpose. The results are being reported in the present document.

Five European and nine US companies were interviewed. Japanese companies were not included for budgetary reasons. A balance between equipment and component manufacturers guided the selection of contacts. Interviews with several executives were sought in every company in order to obtain a broad view. Executives responsible for overseas operations, business planning and companies' R and D were the targets of the enquiry.

All interviews followed the same pattern and the salient points

of the structured discussions together with the conclusions are reported. The Questionnaire which formed the basis of the discussions is enclosed in Appendix A, together with the summaries of replies.

2. TECHNOLOGY 'DONORS'

Traditionally less developed countries would receive new technology by transfer from a parent company in an industrialised country to its foreign subsidiary. Until recently such subsidiaries would be established solely on the strength of the market prospects in the recipient country. Lately powerful multinational world corporations created a new transfer channel by setting up production plants in the developing countries regardless of the local market conditions, these plants being oriented towards the world markets and their outputs marketed from the companies' global marketing centres. Due to a coincidence of political and economic circumstances this new practise resulted in spectacular growth of concentration of electronic industry in some developing countries so far not possessing industrial output of any consequence, creating thus a precedent for many other developing countries to follow. Consequently many developing countries became engaged in active competition for the patronage of electronic technology 'donors' and many a country today bases estimates of its future economic progress on assumed success as a host country. Observing this trend and the changes in the employment situation and the re-appraisal of social values in the US and in Europe the question must be asked to what extent the

available supply of technology 'donors' can meet the needs of the potential host countries.

In search for an answer, it must be accepted that the 'economic miracles' along the Taiwan and to a lesser degree Korean lines are unlikely to be repeated since apart from their own very able efforts the rate of migration of 'donors' to these two countries was helped by their politically exposed situations and the consequent encouragement for the move US companies received from their Government. There is no reason to expect that this situation would be repeated in the future with respect to other developing countries. Instead the potential host governments must competitively seek patronage of 'donors' by offering the sort of facilities foreign companies are looking for and discussed briefly in Section 4.

To be effective the publicity must be done in a professional manner. It cannot be done on the cheap but costs can be minimized if regional interests of the potential 'donors' are taken into consideration. US companies looking for a host country look south of the border first and at the Far East second before looking elsewhere. Most Europeans apart from Eastern Europe, will look at the Middle East and Africa before considering other parts of the World. Japan prefers to follow her traditional markets in the Far East.

So far the host countries have been concentrating their efforts to attract foreign investment from the most developed countries in the pursuit of the general belief that the latest technology should be the best buy. As it becomes progressively more difficult to attract the 'donors' in the future it should pay the potential host countries to direct their attention towards the possibilities of

attracting investment from some of the less developed countries. Contrary to the views generally held in the developing countries transfer of a relatively old-fashioned technology may frequently make a more lasting impact on the economy of a host country than it could be achieved with a more modern and consequently more volatile technology. Also by thus aiding operation of another less developed country a scale of operation could be reached when penetration of World markets might jointly become possible.

As for the present sources of technology 'donors', that is the US and West European companies, no drastic change in attitudes to investment in the developing countries needs to be feared. Some easing of interest in expatriate facilities among the consumer equipment and component manufacturers can be expected due to current unemployment and consequent pressures from the Trade Unions in the 'donor' countries but no basic change in the management outlook at the usefulness of expatriate operations is expected. Interest in exploitation of local markets in the developing countries on non-expatriate basis will continue. Any probable easing of interest in expatriate facilities among the component and consumer goods manufacturers is likely to be offset by the expected growing interest in off-shore operations among manufacturers of laboratory and industrial measuring equipment and manufacturers of computers and the associated peripheral equipment who are expected to be increasingly exposed to the Japanese competition and to be seeking the same remedy as their component and consumer equipment colleagues sought first under similar circumstances.

3. ATTITUDES

3. 1. Joint Ventures

Joint ventures appear to be the most effective vehicles for transfer of technology. They ensure continuity of flow of know-how and come closest to the establishment of full manufacture of a product as opposed to a mere assembly which is characteristic of expatriate plants. Joint ventures are liked by the 'donors' because being based on the interest in the local markets it is in the interest of the 'donor' for his product to find place in the host country national pride and for his plant to be identified with the nationalistic aspirations of the land. Involvement of the local capital in a joint venture can achieve just that. Local participation also eases the initial financial burden connected with setting up of a new venture and of course it spreads the commercial risk.

Being oriented towards the home markets of the host countries the products manufactured by joint ventures are the consumer electronic equipment in most cases. Telephone equipment is produced on this basis in some countries.

Joint ventures in the component field are not favoured by Western companies because the markets in the developing countries are too small. It is worth noting in this connection that Western companies need annual output in excess of \$ 0.5 million for most discrete components and in the region of \$ 2.5 million for semi-conductor devices in order for their plants to break even. Accordingly, interest of Western component manufacturers in the developing countries is limited to the facilities they are prepared to offer as hosts of expatriate operations.

Joint ventures in the component field seem an exclusively Japanese domain, at least as far as the Far East is concerned. Aided by short supply routes and access to a number of markets in the area the Japanese appear capable of mounting stripped down operations usually based on obsolete production equipment (a rather realistic approach), minimum staff facilities and all Japanese management. Readiness of Japanese executives to work overseas at a fraction of income of their US and European counterparts no doubt aids the situation.

Joint ventures established in a developing country on an assumption of an economic cooperation of several countries in an area have given rather painful experiences to their Western sponsors so far. Consequently they are being considered too risky and are not being favoured at present.

The chief problem of all joint ventures are the high production costs. Costs between 30% and 50% up on the costs in the 'donors' home plants are regarded quite normal. Inadequate management control, overstaffing, unreliability of deliveries and problems with collection of payments are the most obvious causes. To minimize the effects of these evils and to achieve profits within reasonable time, the 'donors' prefer and indeed feel that they need to insist on retention of management control, a point which tends to be a frequent source of friction between the 'donors' and the governments of the recipient countries.

The problems of adequate tariff protection frequently prevent potential 'donors' to set up joint ventures in a developing country. Some governments refuse tariff protection in the belief that because of low local wages high profits must be

the reason for the expected high prices of the locally made products. There is a feeling among the Western companies that the governments of the developing countries tend to be unrealistic on this point.

The frequent insistence of governments of the developing countries on the most advanced technology and processes to be used in the planned joint ventures are considered by the 'donors' to be cases of misdirected nationalism frequently contributing further to the high costs of local production.

Insistence on a too high local share in the management of a joint venture too soon does stop at times potential 'donors' to become involved in developing countries. Most 'donors', particularly the European ones, are quite genuine in aiming at national managements for their joint ventures abroad but they insist that choice of staff should be their own, and that the candidates should receive a prolonged training in their home plants. The reluctance to surrender control is not always reflection on the ability of the country concerned, but it is frequently an acknowledgment of their own management inadequacies and their conviction that only personnel associated with their operations for a number of years can derive the best benefit for the new venture from its association with the parent organisation.

3. 2. Expatriate Ventures

Expatriate ventures are not related to the markets of the host countries. Their incidence is related to the World market conditions.

They are either extensions of existing production facilities of the owners at home (usually a large multinational corporation) or they are direct replacements for such facilities. Therefore, they must be at least as profitable and efficient as the facilities they replace or with which they dovetail. Consequently they must be established in a different way than the joint ventures are. One of the conditions is 100% control and 100% ownership by the foreign company. Further necessary conditions are complete control over the supply routes of raw materials and ensured facilities for disposal of products in the World markets.

While joint ventures serve the self interest of the 'donors' by serving the needs of the recipient country, expatriate ventures are wholly oriented towards the needs of the world corporation who owns it. Therefore, they are not such suitable vehicles for transfer of technology as the joint ventures are. They are not valueless to the host country in this respect, however. It is true that their short term value in the technology sense is only indirect through giving access to the local personnel to experience which otherwise would not be available in the country. But there can be a long term benefit too. Expatriate ventures can act as catalysts in transfer of secondary technologies needed by the service industries for which expatriate ventures may create suitable market conditions.

So far service opportunities created by the expatriates have been largely neglected in the countries where expatriate operations are in existence and their possibilities remained unappreciated in the countries where this kind of patronage is not favourably regarded. In fact the expatriate operators would frequently

be prepared to participate in joint ventures to provide local service for their main operation. So far opportunities of this kind have been mostly ignored allowing further expatriates to fill the void.

3.3. Licences and Know-how Agreements

It would seem that apart from joint ventures only licence agreements can be of real value to the manufacturers in the developing countries. General know-how agreements are difficult to operate even when concluded between partners of comparable technical capability. A considerably less developed partner would find it very difficult to derive any real benefit from an agreement of this kind. Systematic study of published technical information followed by licencing agreements combined with subsequent purchase of a production plant, is regarded an efficient way for technology transactions when joint ventures are not practical.

Warnings against over-ambitious approach to technology purchases were heard particularly from manufacturers of semiconductor devices. Prudence and cool evaluation of economic benefits on a national scale is being advised when purchases of advanced technology are contemplated. Several contacts felt that in a protected environment of an economy of a developing country a technology of arrested development may provide a base for development of indigenous technological capability whilst developing advanced technology is likely to remain a shadow of World events.

Resentment is being felt among some Western manufacturers over the occasionally met attitudes of governments of developing countries approaching licence negotiations on the 'World owes us living' basis. It was pointed out that sale of a licence frequently amounts

to the sale of the right of access to a particular market and that the developing countries must accept facts of commercial life and the vendor's right to strike the best bargain. It seems that the European companies would tend to strike harder bargains than their US counterparts. Also the US companies are probably better equipped to adopt more imaginative approach to the negotiations.

4. VALUE OF INCENTIVES

It was not possible to take a census of opinion on the importance of facilities the 'donors' are looking for when considering the pros and cons of setting up a plant in a developing country. A large number of factors come into a consideration and their relative importance seems to vary with individual companies and with changing circumstances. Below the reader will find a list of those mentioned by the contacts during the interviews. The order of listing does not necessarily signify their relative importance.

(i) Ease of Trade

For a company interested in an expatriate operation this means availability of bonded facilities. When a joint venture is being considered the size of the local market and the rate of its growth together with the prospects for tariff protection will probably receive maximum attention under this heading. The government's record of interference or non-interference with trade will also be carefully looked at in both cases.

(ii) Security of Investment

Fears of nationalisation of foreign assets play an important part. The risk equation consists of balancing the estimated political stability of a country against the probability of

recovering the investment before any foreseeable instability may occur.

(iii) Low Production Costs

Low wages alone are no longer a decisive factor. Cost of services, ease of access of materials and personnel, ease of communications, cost of money, availability of raw materials and of supporting industries, competence of civil service, debt collection practices, are only some of the factors which affect production costs.

(iv) Single Call Facilities

A number of developing countries have streamlined their administrative procedures with respect to establishment of foreign enterprises in their countries so that a single agency will deal with the potential 'donor' on behalf of all departments concerned. These countries now enjoy a considerable advantage over the countries where the potential 'donor' still has to deal with a number of departments.

(v) Concentration of Services

Availability of industrial estates with laid on public services, communications and all administrative facilities is expected today by most potential 'donors'. Some of them prefer to 'try it' on a small estate before committing themselves deeper by building a factory.

(vi) Fiscal Incentives

Tax allowances are expected as a matter of fact but become frequently illusory because during considerable part of the tax free period the new plant is unlikely to show taxable profit. Governments could therefore gain relative advantages by a new and imaginative approach on this point.

(vii) Local Capital and Credit

High cost of money and scarcity of local capital were the most frequently mentioned difficulty when joint ventures were discussed during the interviews.

(viii) Ease of Access

Efficient and sufficient posts (air and/or sea) and flexible procedures are an important asset. Simple immigration regulations must match the ease of movement of goods.

(ix) Minimum Red Tape

Red Tape in the developing countries is universally feared. A country with efficient administrative procedures will always enjoy preference.

(x) Supporting Industries

Services of supporting industries would be welcomed by expatriates and non-expatriates alike. In the countries where they exist unreliability of quality and deliveries make frequently reliance on these services impractical. Initiative on the part of governments of the developing countries to secure cooperation of the 'donors' already involved in a particular country would not go unheeded.

5. CONCLUSIONS

- (i) Interest of Western manufacturers in the developing countries is twofold. They are interested in the growing markets for electronic equipment there and in the role of the developing countries as possible hosts to their expatriate operation. The interest is not likely to diminish appreciably in the foreseeable future though the interest in expatriate operations might have passed its peak now.

- (ii) For exploitation of the internal markets of the developing countries joint ventures are regarded desirable. Choice of equipment is entirely dependent on the market conditions in a particular country. Of necessity the choice is going to be limited to electronic consumer and telephone equipment.
- (iii) Western component manufacturers are not interested in joint ventures because the size of local markets does not make it economically possible for them. They are interested in expatriates facilities only but they are prepared to sell licences and component manufacturing plants on a turnkey basis.
- (iv) Increase of World consumption of discrete components and semiconductor devices is foreseen by the Western component manufacturers.
- (v) Discrete components technology will survive in the cheaper types of radio receivers during the present decade. It will also survive in the black and white television sets for at least next five years.
- (vi) In view of the World price of components and considering the established pattern of trade it is necessary to encourage component manufacture in a developing country may not always be a wise policy.
- (vii) Where manufacture of components in the developing country is considered desirable licence agreements between local equipment manufacturers and foreign component manufacturers should be encouraged. Involvement of local equipment manufacturers of components should ensure a realistic balance of achievable

prices of components and final products, as well as a realistic choice of components to be locally made.

The equipment manufacturers should be encouraged to specialise their component productions and to develop national trading pattern in components among themselves.

(viii) Expatriate plants should not be resented by the governments of the developing countries. Although their short term contribution to the industrialisation of a country is low their long term contribution through creation of potential demand for industrial services and as potential users of locally made components should not be overlooked.

Their immediate contribution to the solution of the employment problem is obvious.

(ix) Products made in a developing country are invariably more expensive than the same product made in the 'donor's' home plant. Therefore, developing countries must agree to protective tariffs before a joint venture becomes a practical proposition.

APPENDIX A

Questionnaire and Summaries of Answers

Q. 1. What is your Company's attitude (policy) towards internationalisation of the production facilities?

- (i) Is it your Company's policy to de-centralise on a World scale your manufacture of components while directing sales to World markets by a centralized marketing organisation?
- (ii) Is it your Company's policy to regionalise, that is to have an independent manufacturing process supported by their own sales organisation in the proximity of local markets?

ANSWER

No clear cut answer was given by any respondent. In multinational companies both policies are followed simultaneously, the choice being determined by the type of product and the market conditions in the particular part of the World. On the whole Policy (i) tends to be applied to products manufactured in very large quantities such as cheaper types of consumer goods and the components, and Policy (ii) to some capital goods, particularly telecommunication equipment. In the latter case few companies seem to be moving towards regionalisation of the whole operation concerning a particular product whereby engineering and design, as well as production, are farmed out to a particular part of the World.

Q. 2. For the last five years or so there seemed to be a tendency among the World companies towards the policy Q1 (i)

- (i) Can you identify some common characteristics among the companies which find the policy Q1 (i) advantageous?
- (ii) Could you name these characteristics?
- (iii) Do you think that this trend will continue through the 1970 decade?
- (iv) How long do you think that this trend will continue?

ANSWER

- (1) Companies which found internationalisation of their production advantageous in the past were companies who found themselves under severe competitive pressure from the growing Japanese production and needed rapid reduction of their manufacturing costs to retain the markets.
- (ii) Mainly US manufacturers of consumer electronics and electronic component with turnover generally in excess of \$ 10 million p.a.
- (iii) The trend is expected to continue but probably at a lower rate; partly because US multinationals are fairly saturated with international manufacturing facilities and partly because of the changed labour situation in America.
- On the other hand, as the Japanese pressure shifts towards measuring instruments, general instrumentation and data processing equipment with its peripherals, new US companies are likely to turn towards this policy.

Q.3. Which classes of your Company's products could be considered suitable for marketing policy Q. 1. (i) and which for policy Q.1. (ii)?

ANSWER

See answers to Q.1. and Q. 2.

Q.4. Could you tell us something about the Worldmarkets for products under A. 1. (i)?

(i) How big are these markets?

How

1976

1980

(ii) How are these markets shared out between US, Europe and Japan?

(For Europe ask whether West Europe only, or North/West combined)

(iii) What are these shares expected to be by 1976 and by 1980?

ANSWER

No answers were obtained to this question. Statistics, however, show that the total markets for both the consumer electronics and

the components valued at some \$ 15 billion each in 1979 of which US had 35%, Europe 30%, Japan 15% and the rest of the world 20%. If computer and industrial electronic devices were to compete for loss of technology between the consumer and the component fields some slow down could be expected on account of the smaller sizes of these markets.

- Q.5. Our studies of the electronic industry in the developing countries indicate that annual return on capital is about three times higher than usually obtainable in the developed countries. Also the capital to turnover ratio appears about three times higher. Does it seem reasonable to you?

ANSWER

It appears that this question was misconceived. The capital to turnover ratios do not seem in fact to vary greatly in companies engaged in similar business.

- Q.6. How much less capital and how many more operatives would you expect to use in a developing country on an assembly line of an electronic device to have an equal output as an assembly line in a developed country?

ANSWER

Expatriate off-shore plant can be run at the same capital and labour efficiency as a plant in the home country. Plants operated as joint ventures under local management may use as much as 40% more labour for comparable output and capital outlay. Where intermediate technology is used (usually obsolescent plant) lower capital outlay may be (but not necessarily is) achieved with labour force even in excess of 40% for comparable home output.

- Q.7. What is the minimum annual return on capital and the minimum rate of return which you would consider acceptable as an investment in a developing country?

ANSWER

Initially acceptable trading results depend on long term prospects. If these are good the 'donor' company may go into a developing country even at a price of initial trading losses. It may take anything between two to five years to make a branch company in a developing country to pay. This does not apply to expatriate operations which have to pay immediately.

Q.8. When investing in a developing country would you consider partnership with a local capital or would you insist on 100% control?

ANSWER

If the plant is to fit into the policy pattern described under Q.1. (i) the plant must be almost inevitably 100% owned by the 'donor'. Where the 'donor' is going into a developing country because of the attractions of the local (regional) market conditions majority holding is generally preferred but the 'donors' may be prepared to settle for control of production and engineering. Long term security of investment plays an important part here.

Q.9. What kind of facilities is international company looking for in a host country? Cheap labour, of course. What else? Is availability of locally made components an advantage?

ANSWER

1. Ease of trade.
2. Security of investment.
3. Low total labour costs (as opposed to low wages).
4. Concentration of administrative procedures in a single agency.
5. Concentration of services, i.e. well equipped industrial estates.
6. Fiscal incentives in the form of tax allowances and customs protection where non-expatriate operations are considered.
7. Availability of capital and credit.
8. Ease of access.
9. Minimum red tape.
10. Supporting industries.

Q.10. Can you see some developing countries which are active in soliciting patronage of electronic companies from the developed countries? How do you get into a market there?

ANSWER

'Donors' look for host countries primarily in the parts of the world where they have trading experience. Personal past associations of the executives also play an important part in the selection. Thus US companies are looking primarily south of the USA border and then to the Far East. European companies look primarily to Eastern Europe, Middle East and Africa. Apart from knowledge derived from traditional associations relatively little knowledge exists in the managements of potential 'donors' on availability of host facilities in the developing countries in the unfamiliar areas. Effective publicity by the developing countries could therefore be rewarding.

- Q.11. Do you have an expatriate operation?
Where?
What made you choose that particular country?

ANSWER

Almost all interviewed companies had overseas operations. Components manufacturers tended to go for expatriate operations whilst the US equipment manufacturers seemed to have expatriate and local joint venture plants. With the European manufacturers local joint venture predominated.
Motivation of choice of host countries was answered under Q.10.

- Q.12. Why are European countries slow to invest in the developing countries of South East Asia?
Are they investing elsewhere?

ANSWER

See answers to Q.10. Also the geographical distance plays an adverse role.

- Q.13. Do you expect that the small national industries will remain technically dependent on the world companies or have they a chance to become emancipated in the end?

ANSWER

It would be unrealistic for the developing countries to believe that they could achieve technological parity with the electronic world giants. For one thing, they could not finance it. They can become emancipated,

however, at a lower technical level within protected national or regional trading areas. Although they will have to maintain a certain amount of high technology knowledge in order to maintain progress at their own level they must remain realistic and apply it only within their economic means. Any high technology plant likely to be placed on their territory is most likely to remain an expatriate operation.

Q.14. How much cheaper needs the labour in a developing country to be for the developing country to be attractive to a World company as a place to set up an expatriate operation?

ANSWER

Labour costs were the decisive factor ten years ago. Total manufacturing costs determine the decision today.

APPENDIX B

Companies Contacted

2.2.1971	Thorn-General Electric, Upper St. Martin's Lane, London, W.C. 2.	Contact: R. Terry, Managing Director.
11.8.1971	General Instruments, 1775 Broadway, New York.	Contact: Bob Martin, V.P. Corporate Planning Paul Schwartz, Manager, Integrated Circuit Division.
12.8.71	General Radio, Concord, Mass.	Contact: Peter Goebel, Product Manufacturing Manager.
13.8.71	Sprague Electric, 481 Marshall Street, North Adams, Mass.	Contact: Jim Fisher, Overseas Marketing. Al Scheerr, Manager, Corporate Planning. E. Ward, Vice-Chairman, Overseas Operations.
16.8.71	RCA, Consumer Products Division, Indianapolis, Indiana.	Contact: Bob Morris, V.P. Marketing
	Hallory Capacitor Company, Indianapolis, Indiana.	Contacts: Ed. Moss, Director of Engineering N. Wayne Otter, President. C.P. Dibble, General Manager.
17.8.71	Motorola Inc. Semiconductor Division, 5005 East McDowell Road, Phoenix, Arizona.	Contacts: Walter J. Schuck, Director P.R. Dave Michie, Manager, Long Range Planning. Bob Field, Visitors Liaison.
18.8.1971	Dickson Electronics Corp. 8700 E. Thomas Road, Scottsdale, Arizona.	Contact: Richard H. Rudolf, President.
19.8.1971	San Fernando Electric Manufacturing Co. 1501 First Street, San Fernando, Calif.	Contact: Joseph Diaz, Director, International Marketing.
20.8.1971	TW Semiconductor Division Inc. 14520 Aviation Blvd. Lundale, Calif.	Contact: Glenn H. S. Merthwite, Marketing Manager. Dietrich Frank, Operating Manager.

27.9.1971 G.M.C. Limited,
1 Stanhope Gate,
London, W.C. 2.

Contact: Mr. Vassilighi, Director of
Overseas Operations.

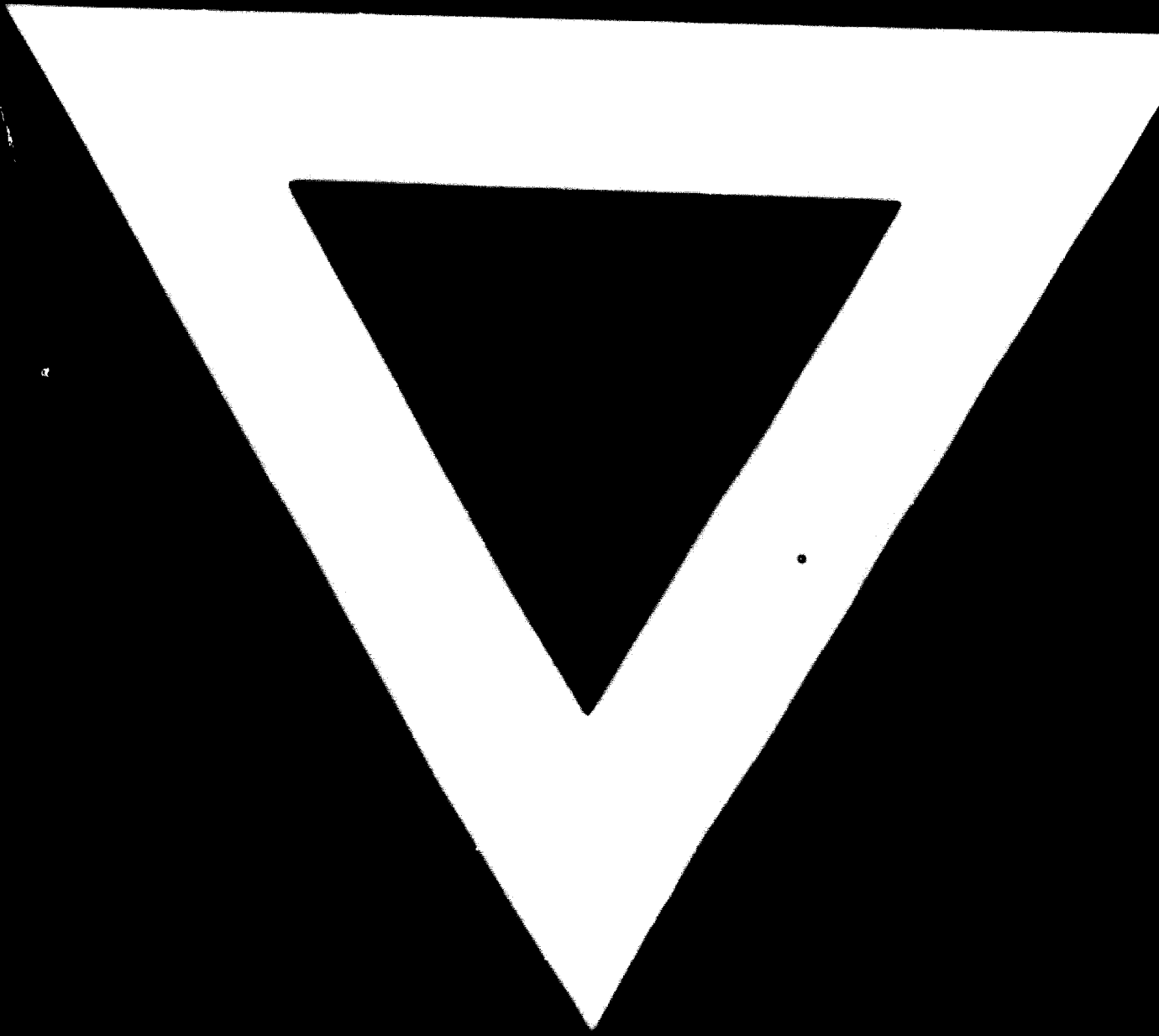
Other Companies contacted:

Siemens in Munich.

Philips in Eindhoven

CSP in Ferio.





11.7.74