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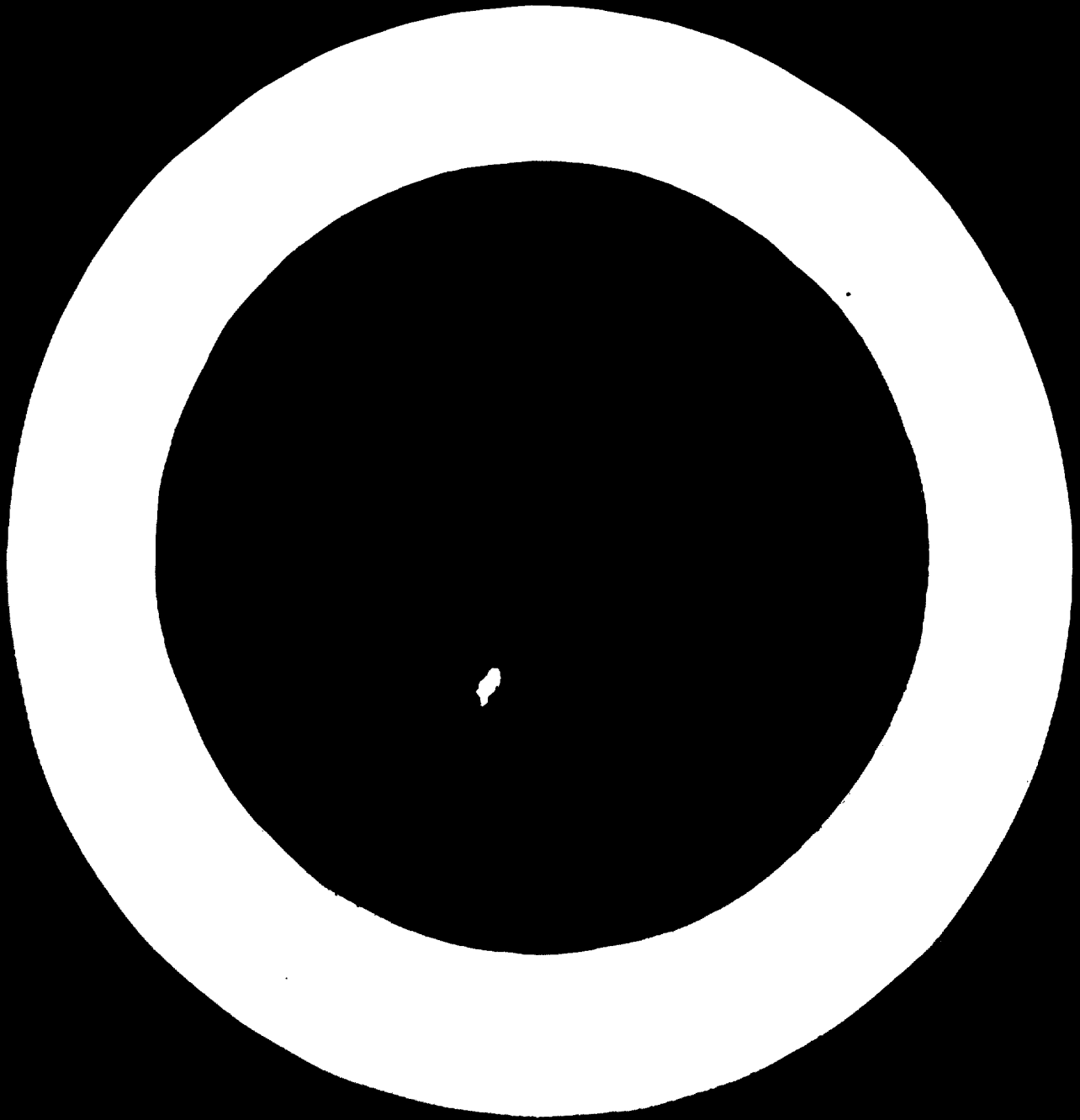
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1/ The views and opinions expressed in this paper are those of the author and do not necessarily reflect the views of the secretariat of UNIDO.

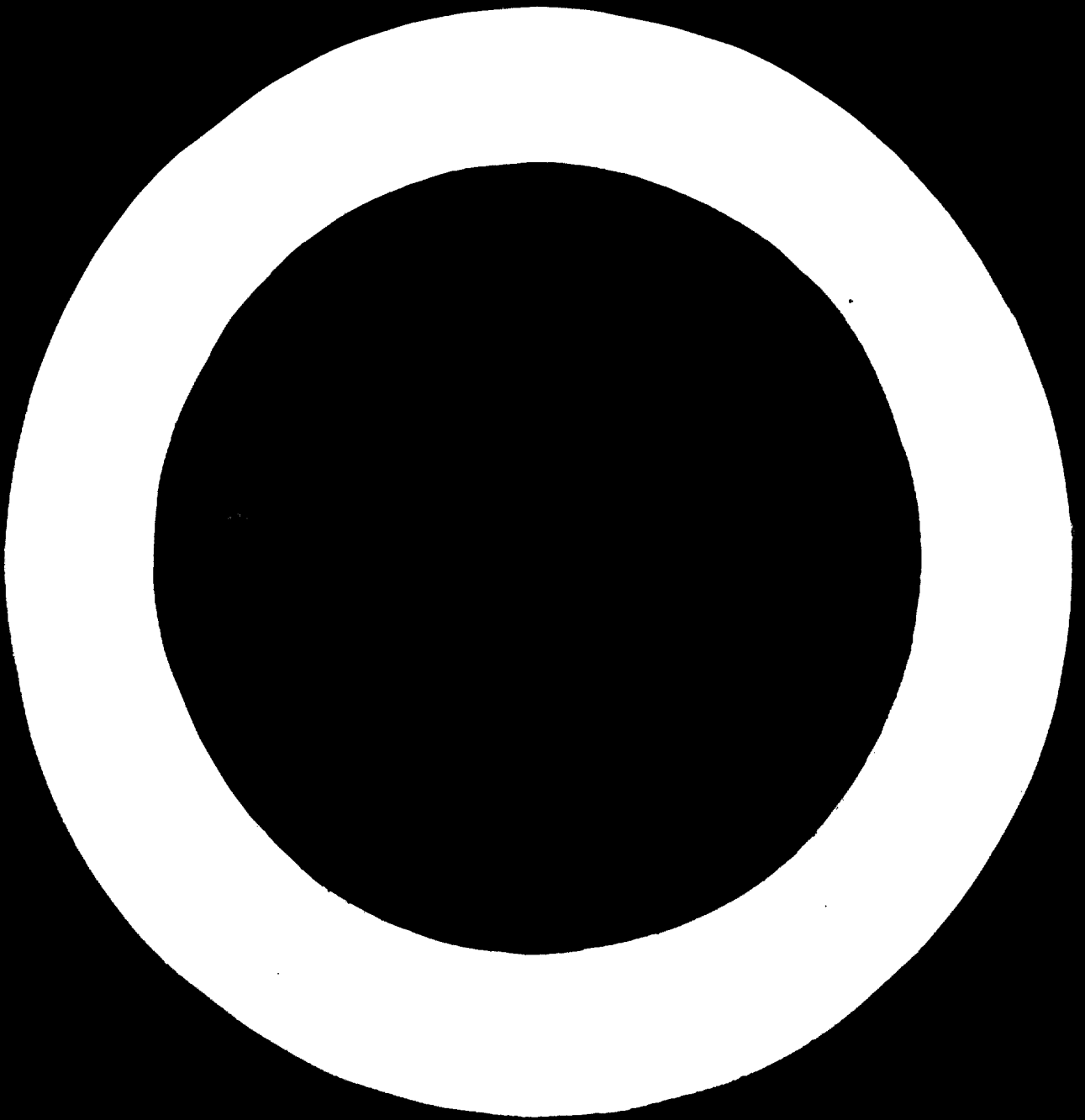
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We regret that some of the pages in the microfiche copy of this report may not be up to the proper legibility standards, even though the best possible copy was used for preparing the master fiche.



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SUMMARY

I. INTRODUCTION

In order to achieve efficient utilization of material and human resources in the developing countries, it is essential that their industries should have at their disposal technical, economic and managerial know-how. Very few enterprises, however, feel the need to resort to new techniques and take the initiative in providing themselves with the necessary information. The existence of industrial information bodies is therefore a decisive factor in encouraging industrialists to seek new techniques, as regards both production and management. There is considerable decentralization of information services in Uruguay, but no co-ordinating body.

II. CFU AS A PRACTICAL INFORMATION SERVICE

1. Establishment

A semi-governmental body of a technical character established in 1963 with United Nations technical assistance.

2. Aims

To act as an implementing organization, in the industrial sector, of the National Development Plan drawn up for the decade 1965-1976.

3. Organization

There is an Honorary Productivity Commission, which selects a Director-General, below whom there is a Technical Branch composed of 34 persons and an Administrative Branch with a staff of 32. Technical assistance is provided by five United Nations experts.

4. Activities

- Information and training programmes at managerial and intermediate levels;
- Information and consultation services, to industries requesting them, on specific technical problems;
- Visits by technical experts to enterprises for the purpose of encouraging, through direct contracts, a demand for information and advice;
- Library service.

5. Plans for the future

It is planned to establish an industrial information centre within the Productivity Centre, for which purpose United Nations assistance will be sought.

III. MEDIA FOR THE DISSEMINATION OF INFORMATION IN URUGUAY

1. Survey

A preliminary inquiry into dissemination media was carried out in 1970 by means of a questionnaire sent out to libraries, documentation centres, research institutes, information services of ministries and banks, the Office of Industrial Property, extension centres, experimentation centres, private consultancy agencies, and private consultants.

2. Conclusions

The basic fault of the system is lack of centralization. The information services should be oriented towards the creation of a centre that would avoid duplication. The national system should be linked with the international systems.

IV. NEED FOR THE CREATION OF A SPECIALIZED BODY

An initiative needs to be taken in order to achieve co-ordination of the work carried out by all the bodies concerned. CFU, aware of the importance of such a service in national development, has included in its future programmes the creation of an industrial information centre as part of its own activity.

ANALYSIS OF INDUSTRIAL INFORMATION MEDIA IN URUGUAY

I. INTRODUCTION

The purpose of this paper is to analyse existing industrial information systems in Uruguay. The term "industrial information" includes the scientific, technical, economic and managerial data that must be transmitted to industry in order to facilitate its development. It is widely recognized that the under-development that characterizes most of the countries of Latin America is due to the limited and un-productive use of the material and human resources at their disposal. An essential requirement for the adequate exploitation of those resources is industrial information. It is therefore deemed essential, for accelerating the process of economic growth, that the information and experience that has accumulated in the industrialized countries should reach the enterprises able to make use of them in the developing countries. However, precisely in these countries there are very few enterprises that feel the need for resorting to new techniques and that take the initiative in providing themselves with the necessary information; most of them go on using traditional methods and processes, as regards both production and administration. The existence of industrial information bodies is therefore a decisive factor in encouraging interest among industrialists in new production and management techniques, training for themselves and their staff, and use of the advisory and consultation services in the field of economic information that would help the activities of their enterprises.

There is no co-ordinating body in Uruguay for these information services; on the other hand, there is considerable decentralization due to the simultaneous and piecemeal activity of the various organizations, which operate without any mutual plan of collaboration, duplicating efforts and prejudicing the efficiency of the service. This paper describes the activities of the organizations that consider they are fulfilling an important task in the dissemination of information for industry.

The paper goes on to examine the work carried out in this field by the Uruguay Productivity Centre (CPU), its present limitations and future plans. An analysis is also made of the transmission of technological information throughout Uruguay by means of a survey of the bodies disseminating information.

II. CFU AS A PRACTICAL INFORMATION SERVICE

1. Establishment

The Uruguay Productivity Centre was created, with the assistance of the ILO, by government decree, on 30 May 1963, and is structured as a semi-governmental body of a technical character.

Its principal aim is to act as an implementor, in the industrial sector, of the National Development Plan drawn up by the Investments and Economic Development Commission (now the Office of Planning and the Budget) for the decade 1965-1976. This Plan aims at increasing per capita investment and income, and provides for a growth in the gross national product of 5 per cent per annum, an increase in investment of from 13.5 per cent to 20.5 per cent of GNP and an annual increase in exports of 8.1 per cent.

Various international organizations have collaborated by sending advisory experts. The most important contribution has come from the ILO, which has sent technical experts in the fields of production, business economics and finance, and marketing, and from UNIDO, which has sent experts specializing in specific kinds of industrial activity.

Since December 1969 the Centre has been carrying out the first stage of the technical assistance project for setting up an industrial consultancy service under the aegis of the United Nations Development Programme (Special Fund).

2. Aims

The specific aims of this institution are as follows:

- To implement and channel Government of Uruguay technical assistance for industry, as regards investment policies, foreign trade, production and administration of industrial undertakings, and thus establish close links between the industrial sectors and the Government and its development plans;
- To make studies, investigations and recommendations concerning the necessary infrastructural factors and facilities for accelerated industrial development, and to communicate these to the Government in order to enable it to deal with them and to provide adequate solutions in its new plans;

- To make known executive and administrative techniques to the top men in business concerns, including highly qualified specialists, such as market survey experts, production engineers and experts in scientific management, and industrial economists. Emphasis should also be laid in industrial undertakings on the need for a complete team of managers at all levels, thus ensuring all the functions necessary for adequate administration of business enterprises;
- To advise industrial and commercial undertakings on the introduction of management techniques for the better administration of enterprises, making use of all the resources available and thus bringing about an increase in productivity in general;
- Advise enterprises on the development of new lines of production that are suitable in respect of quality, cost and price and are therefore sufficiently competitive both for export and for domestic consumption;
- Advise on the introduction of suitable technological processes and train enough technicians to apply these processes;
- Carry out pre-investment and feasibility studies for new industries or establish manufacturing standards in existing industries, thereby creating new sources of work;
- Likewise offer technical assistance to all service institutions in the country, introducing the concept and the forms of rational and economical administration;
- Encourage and promote the creation of specialized and service institutions required for the country's industrial development;
- Co-operate and work in close contact with other Uruguayan institutions connected with industrial development, professional training, management staff, specialists and trained workmen;
- Organize and encourage the establishment of private consultants, who can be trained along with the Uruguayan specialists included in the programme, once a specific expertise has been acquired.

3. Organization

The activities of CPU are carried out under the direct authority of the Director-General, who, in his turn, is responsible to the Honorary Productivity Commission, composed of representatives of the country's leaders and of the Executive Power through the Ministers of Industry and Commerce and of Labour and Social Security and the Office of Planning and the Budget. This Commission appoints, from among its members, an Executive Board responsible for giving practical effect to the policies drawn up by the Commission.

The Uruguayan staff of specialists is composed of:

- 1 Director
- 4 Chief consultants
- 29 Consultants and assistant specialists.

The administrative staff consists of:

- 1 Chief of Administration
- 9 Secretaries and typists
- 12 Mimeographers, messengers, watchmen and cleaners.

The team of international consultants assigned to this project is composed of the following experts:

- Chief of Projects
- Industrial production engineers
- Industrial economist accountant
- Marketing consultant
- Shoe industry technologist.

The organizational structure is shown in the graph in Annex 1.

Equipment is also available for training the Uruguayan consultants and the executive and managerial staff of the enterprises concerned. This includes:

- Audio-visual aids for use in information and training programmes;
- Office equipment for calculating, printing and reproduction of documents;
- Library of technical papers and reviews;
- Special equipment for work measurements.

4. Activities

The activities carried out by CFU in pursuit of its established aims, by means of the resources mentioned above, and which in a way constitute an industrial information service, may be grouped as follows:

- Information and training programmes, designed for executive staff, management at all levels, department chiefs, intermediate managerial staff and trade union leaders, with a view to disseminating new production and management techniques. These programmes are eminently practical in character, directed at the solution of the problems most frequently encountered by enterprises in our environment. According to the themes with which these programmes deal, they may be broken down as follows:

- Managerial development and executive control
- Marketing
- Production
- Business economy and finance
- Personnel
- Organization and methods
- Industrial technology
- Trade unionism.

The instruction received by participants is supplemented by visits carried out by the instructors to the enterprises concerned, in order to discuss with their managerial staff the possibility of applying the material dealt with in the courses. In addition, meetings are organized for directors and specialist staff in which subjects of interest to industrial undertakings are presented and discussed;

- CFU offers information and consultation services, to those requesting them, on specific technical problems in the economic and financial fields, such as production engineering and marketing. A diagnosis of enterprises is carried out in order to get to know their actual situation and to suggest corrective action for improving their productivity. In short, direct technical assistance is provided to industries requesting it for the purpose of discovering, and wherever possible eliminating, the factors limiting their development. Such assistance also encourages enterprises to train their staff;
- Experts from the Centre visit enterprises, and through personal contact encourage a demand for industrial information and counselling; they also explain the fields in which advice and assistance can be given;
- A library of technical books and publications regularly received is being established and is being run by a graduate of the University School of Librarianship (Escuela Universitaria de Bibliotecología). At present, since the service has started only recently and has not yet adequate resources, it deals only with the internal requests of the specialists, and now and again provides material for persons attending the courses. No periodical information service has been organized for industrialists from the publications received and which might be of interest to them. Nor is any review published containing technical articles or results of the work carried out.

5. Plans for the future

Because of the acknowledged importance of industrial information services for the country's development process, and CFU's lack of material and technical resources to run them, a request has been made to the United Nations for assistance in creating an

industrial information centre within the Productivity Centre. This request took the shape of the formulation of the programme for the second phase of the United Nations Development Programme (Special Fund) project. Point III of that programme sets forth:

"III. Programmes to be carried out:

4. Other CFU services

4.1 Documentation service

4.2 Publications

"4.1 Relates to the establishment of a service available to industry as a whole, and to government institutions and dependencies, in order to provide any available information about aspects of business management and technologies. At the same time, the service will maintain contacts with all other information centres throughout the world so as to be able to supply complete data and not unnecessarily duplicate documentation.

"4.2 Under this heading activities are planned for the publication of a monthly review, the publication of all sectoral studies carried out, treatises on business management and technology that are of general interest."

For the organization of this service, the advice of an international expert for a period of one year was planned.

III. MEDIA FOR THE DISSEMINATION OF TECHNOLOGICAL INFORMATION IN URUGUAY

1. Survey

In September 1970 CFU, at the request of the Technological Development Unit of the Organization of American States, carried out a preliminary investigation of the media for disseminating technological information in Uruguay. The main objectives of that study were:

- To evaluate the efficacy of the existing systems
- To propose their re-orientation
- To study the possibility of linking up national information systems with an international system.

The survey was carried out by means of questionnaires sent out to libraries, documentation centres, research and technical institutes, information services of ministries and banks, industrial property offices, extension centres, experimentation centres, centres for assistance to small-scale and medium-sized industries, private consultancy agencies and private consultants and enterprises.

This investigation drew forth a list of bodies disseminating technological information and a brief description of their activities, details of which will be found in Annexes 2 and 3.

2. Conclusions

The conclusions that can be drawn from the survey are as follows:

- Efficacy of existing systems.

The chief fault from which the present system suffers is lack of centralization. Consequently, information is obtained by the direct action of each centre, through independent consultation of sources of information, domestic or foreign, thus duplicating efforts and incurring unnecessary expense through lack of co-ordination. This situation is perhaps one more expression of the individualism that is the salient characteristic of all our actions, and of a lack of training in teamwork. As a result of this situation, the efficacy of the system leaves much to be desired and has a direct bearing on sectoral interest in obtaining information.

The need is therefore obvious to create an information centre dealing with technological bibliography, which could serve simultaneously as a receiver and distributor of all the material sent to the country;

- Orientation of dissemination systems.

Granted that it is necessary in principle to create an information and distribution centre, its functions could be supplemented by a single system of dissemination that would avoid unnecessary duplication of effort;

- Linking up national information systems with an international system.

Standardization of sources of information and a fresh orientation of dissemination systems make implicit the need to link up the national information systems with an international system. This would complete the whole process of re-organizing the country's technological information network, and would apparently be the easiest measure to achieve once the above-mentioned standardization has taken place.

IV. NEED FOR THE CREATION OF A SPECIALIZED BODY

The analysis carried out has clearly revealed the chaotic situation of the industrial information media in Uruguay. The cultural tradition of the country has conducted to the existence of independent and scattered information and documentation centres. This has led to the need to take the initiative to secure co-ordination of their activities in order to improve the flow of information. The Productivity Centre, aware of the importance of a service of this character for the process of industrial development, and that the investigation carried out had confirmed the need for such a service, has included in its future programmes the creation of an industrial information service as part of its own activity.

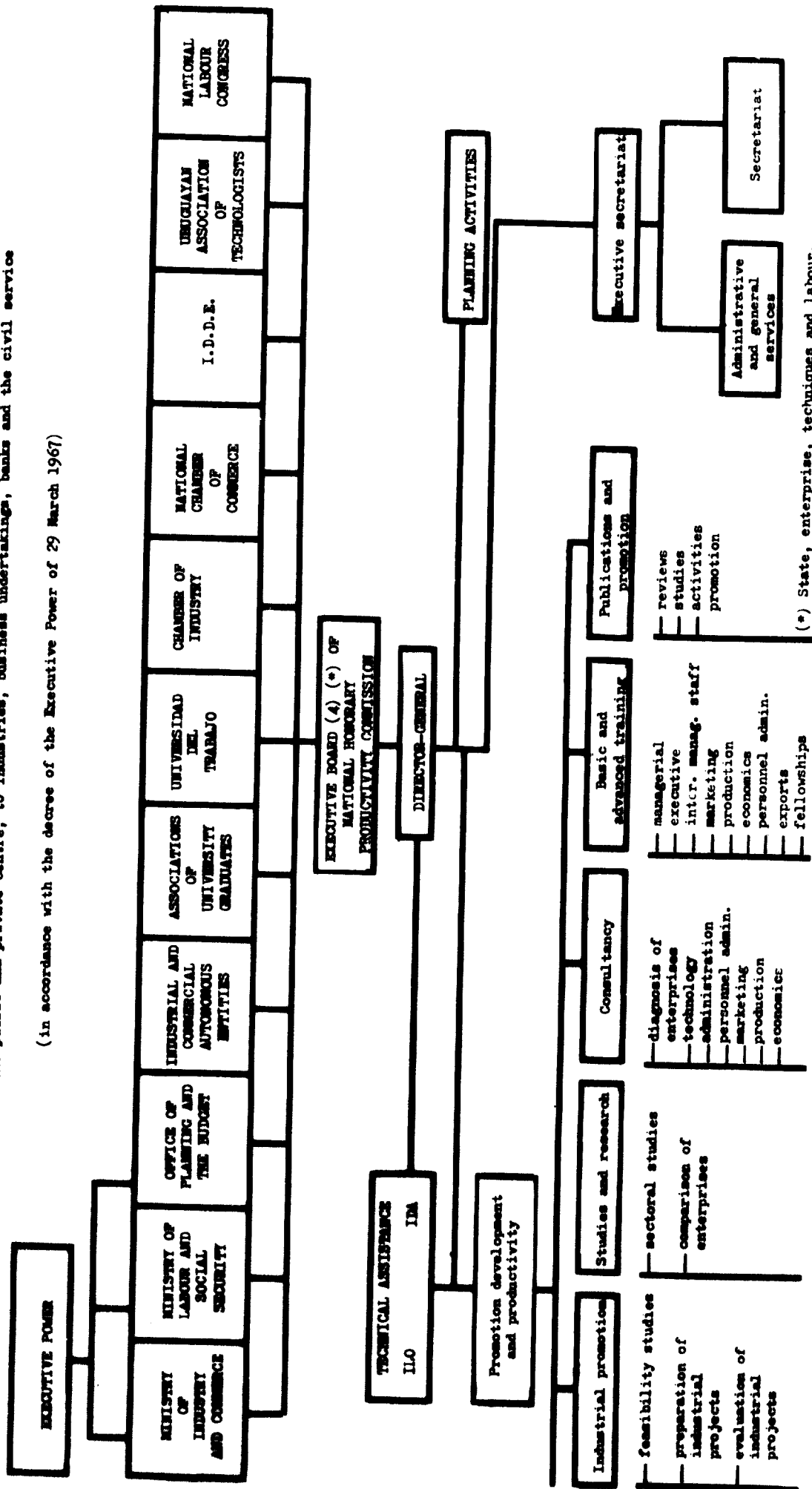
To this effect it is considered very desirable to collect available data on this matter and to have access to the experience of experts as well as securing an exchange of views with experts in countries that have organised similar services.

ANNEX 1

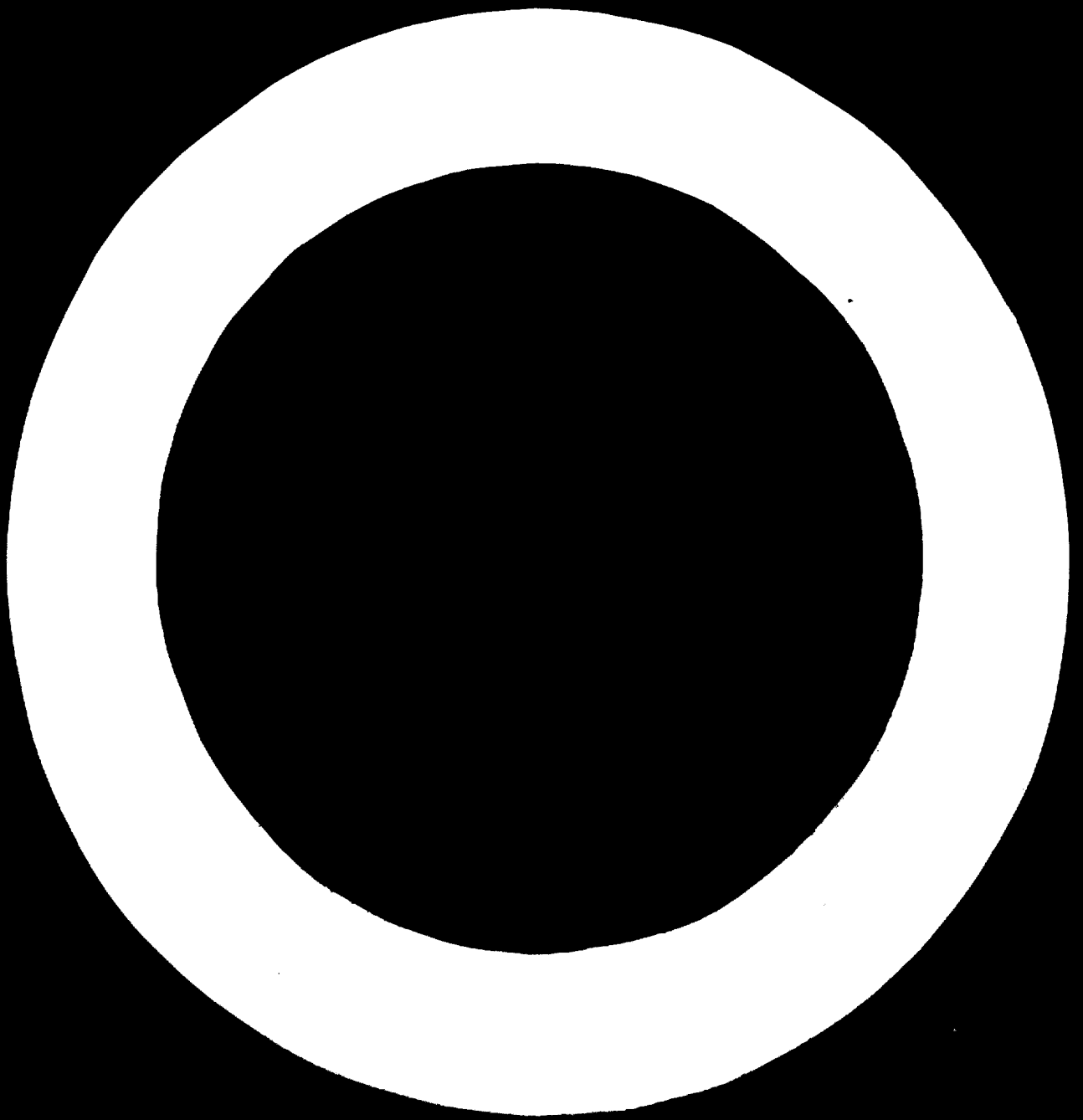
NATIONAL PRODUCTIVITY CENTRE OF URUGUAY (CPCU)

with services for the public and private centre, to industries, business undertakings, banks and the civil service

(in accordance with the decree of the Executive Power of 29 March 1967)



(*) State, enterprise, techniques and labour.



ANNEX 2

SUMMARY OF THE ACTIVITIES OF THE BODIES SURVEYED

Libraries

There are various reasons why the main centre of the investigation was in this field. Among the most important of these are the institutional structure of the country; the organization of education at all levels; the decentralization of the main university centres and the absence of a policy for technical training, either at the public or the private level.

The libraries have directed their activities in accordance with the needs of each institution and of their readers, and in general fulfil only the function of providing reading material.

All of them are short of funds to provide themselves with the necessary bibliographical services, their equipment is scanty and they have qualified staff to run them.

In this connexion, thanks were obviously due to the high standard of training given by the University School of Librarianship and the Fine Arts, which, in addition to training technical specialists, has succeeded in inculcating a marked esprit de corps; it helped to carry out the survey, and opened up the latent possibility of focussing the enormous interest shown in the creation of an information centre that would make it possible to guide interchanges between all the country's library activities.

As regards the dissemination of technological data it may be taken that the main centres are the libraries of the Faculties constituting the University of the Republic. On a smaller scale mention should be made of the work done by the specialized libraries of the various state institutions, libraries of a more general character, and lastly, as an exception, the highly specialized private library of the BAO Company.

An investigation was carried out in the National Library, the Library of the Legislative Power, the Dr. Joaquin de Salterain Library, the Town Hall Library, the José Artigas Library, the Library of the Departmental Council, and the libraries of the Faculty of Chemistry and Pharmacy, the Faculty of Engineering and Land Surveying,

the Biological Sciences Research Institute, the Universidad del Trabajo del Uruguay, the Office of Planning and the Budget, Usinas y Teléfonos del Estado (State Factories and Telephones), the BAO Company of Uruguay, and the Scientific, Technical and Economic Documentation Centre.

In addition, and for information purposes, the libraries of the following bodies were also visited:

Ministries

Foreign Affairs: Library for internal use, with a few volumes on import legislation. Does not disseminate information.

Culture: Library created only recently, and still being constituted. Does not disseminate information.

Industry and Commerce: Library established exclusively for the compilation of laws and decrees. Lacks technical publications and does not disseminate information.

Civil Service Bureau: Library for internal use, with a few volumes on budgetary subjects; has the task of receiving scholarship requests from State institutions and allocating the technical assistance offered.

Library of ANCAP: Fulfills a function similar to that of UTE, supplying bibliographies requested by the institution's technical sectors, which in turn constitute their own specialized library. Uses the services of a translator from the Department of Public Relations.

Official banks

Central Bank; Bank of the Republic; State Mortgage and Insurance Bank have libraries dealing each with its own specialty; do not disseminate information.

Private banks

With the sole exception of the Commercial Bank, which has an excellent library, organized as an integral part of a technical sector including organisation and methods, the Workers' and Mercantile Banks of Rio de la Plata have no technical library and do not disseminate information.

Documentation and information centres

It can be stated that with the exception of the Documentation and Information Department of the Labour University of Uruguay, no other bodies have been encountered whose specific function is to examine and analyse documentation or to disseminate information. That is one of the clearest indications produced by this investigation that the dissemination of information is limited in character.

Lack of a suitable organization hampers the examination and analysis of all the technological information received from the various sources and hinders the efficient exchange of information among the various bodies responsible for the training of specialists in the different branches of knowledge.

Scientific and technological research institutes

Scientific and technological research is carried out almost exclusively in the various Faculties of the University of the Republic.

Apart from the inquiries at the Biological Sciences Research Institute and the Uruguayan Technical Standards Institute, it was practically impossible to obtain data in all the Faculties visited.

Because of the character of the administration no one seemed to be in a position to supply the data requested, transferring responsibility to the Dean. Discussions with the Deans were referred to their respective Faculty Boards, which balked at giving either a negative or a positive reply.

Information services of ministries and banks

The information received from the Ministries of Culture, Foreign Affairs, Industry and Commerce, the Civil Service Bureau and the Office of Planning and the Budget, the Central Bank, Bank of the Republic, the State Mortgage and Insurance Bank, the Commercial Bank, the Workers' and Mercantile Banks (Bancos Comercial, La Caja Obrera y Mercantil) of Rio del Plata, established the fact that those institutions were not disseminating information in any way.

Industrial Property offices

The information obtained from the office of the Director of Public Property established that only administrative tasks connected with the registration of patents and trade-marks were being carried out, and that there was no dissemination of information in any way.

The information obtained from O'Farrel, Fox and Bacot, and the Inter-American Office of Patents and Trade Marks, and from Jones and Company, revealed that the only source of information was the Inter-American Association of Industrial Property (IAAIP), with headquarters in Prudential Plaza, Chicago, Illinois, and that there was no dissemination of information.

Extension centres

The information obtained from the Inter-American Council of Commerce and Production (IACCP) and the Co-ordinating Commission for Economic Development (COMCORDE) revealed an objective to proceed towards the country's economic and social development by defending private enterprise in the exchange and trade activities of export and import. The information obtained at the Centre for Studies on Business Management (Centro de Estudios de la Dirección de Empresas), at the Institute of Higher Research, at INCE and at the ORT Technical School revealed that their activities were directed towards technical training at various levels, but that they did not have the characteristics of an extension centre, since their function was purely instructional.

Technical experimentation centres for industry

Technical experimentation for industry is carried out mainly at the university level, in specific branches of the State commercial institutions such as ANCAP and Usinas y Teléfonos del Estado (UTE), and in the private sector only by the Analysis and Testing Laboratory (Laboratoria de Analisis y Ensayos).

That would appear, then, to be another of the aspects that emerge from an almost total survey of activities organized for the purpose under consideration.

Assistance centres for small and medium-sized enterprises

For purposes of information, visits were made to the business consultants, Price and Waterhouse, Peat & Co. and ALFA, the first of which carries out market analysis, and the other two auditing.

Generally speaking, the remaining activities carried out by consultancy firms and consultants were concerned with accounting and advising on tax legislation.

ANNEX 3

LIST OF BODIES DISSEMINATING INFORMATION

- University of the Republic - 18 de julio de 1824
- Universidad del Trabajo del Uruguay - San Salvador 1674
- Universidad del Trabajo del Uruguay
Department of Documentation and Information - Avenue Joaquín Suárez 1200
- Faculty of Agronomics - Av. Eugenio Garzón 780
- Faculty of Architecture - Br. Artigas 1031
- Faculty of Economic Science and Administration - 18 de julio 1824
- Faculty of Law and Social Sciences - 18 de julio 1824
- Faculty of Engineering and Surveying - Julio H.y Reissig 565
- Faculty of Medicine - Av. Gral. Flores 2125
- Faculty of Chemistry and Pharmacy - Av. Gral. Flores 2124
- Faculty of Veterinary Science - Av. Larrañaga 1550
- Centro de Computacion de la Universidad de la República - Julio H.y Reissig 565
(Computer Centre of the University of the Republic)
- Usinas y Teléfonos del Estado (UTE) - Paraguay 2431
(State Factories and Telephones)
- Administración Nacional Combustible Alcohol y Portland (ANCAP) - Agraciada y Paysandú
- Ministry of Culture - Office of the Director of Science and Culture - Sarandí 444
- Ministry of Industry and Commerce - Rincoñ 737
- Civil Service Bureau - Sarandí 500
- Office of Planning and the Budget - Convención 1523
- Biological Sciences Research Institute - Av. Italia 3318
- Biblioteca del Poder Legislativo - Palacio Legislativo
- José Artigas Library - Departmental Board - 25 de mayo 609
- Dr. Joaquín de Salterain Municipal Library - Municipio de Montevideo
- University School of Librarianship and the Fine Arts - Colonia 2260
- Commercial Bank - Cerrito 450
- BAO Company - Real 4338
- Uruguayan Technical Standards Institute - Agraciada 1464
- Centre for Studies on Business Management - Av. Uruguay 1829
- Uruguayan Centre for National Statistics and International Trade - Misiones 1361
(CENCI Uruguay)



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