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UNIVERSITY OF MICHIGAN
Ann Arbor, Michigan

FINAL REPORT

ICA-Michigan-Waseda Contract ICAC-1052

March 10, 1961

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Technical Resources Branch
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Purposes and Accomplishments of Project.

The purposes of this project, as outlined in Appendix B of the contract, are to assist the Institution in the development of the Institute for Research in Productivity, which may include within its purview, but not be limited to, the following subjects:

1. Industrial Engineering and Management Practices, particularly:
 - a. Production Engineering
 - b. Process Design and Layout
 - c. Operations Research
2. Practice and techniques of Business and Economic Surveys and Forecasting.
3. Marketing, particularly:
 - a. Analysis and surveys for domestic and foreign demand, potential and actual, and for new products.
 - b. Methods and practices in domestic and foreign trade and sales promotion.
4. Management Studies and Seminars, conducted for and with the cooperation of industry representatives and members of the Institution.
5. (Excerpt) The establishment of a good and sufficient library.
6. (Excerpt) The training of Waseda men in Ann Arbor to accomplish the above.

As a general or a detail statement the above objectives have been accomplished, and a great many other corollary things have been included. We believe that the regular six-months reports have included sufficient details concerning the accomplishments and that it is not necessary to repeat them here.

Waseda University now has trained groups in Management Practice, Marketing, Business Forecasting, and Advanced Industrial Engineering which are capable of handling their problems and, in addition, most of the members can speak English well enough so that they can operate in this language. In the Work Measurement field there has been established under IRP sponsorship a fine chapter of the world-wide Methods-Time-Measurement Association and under the same auspices a national chapter of the Institute of Management Sciences. There is a modern computer facility available to education and industry and a well stocked library covering the above subjects (page 2).

One of the things which we discovered early in the contract was that the Japanese would depend upon Americans as long as they were available and, particularly, expect American consultants to carry the ball for them. We realized that one of our problems was to get the Japanese so that they did not depend upon us and could handle contacts by themselves. As mentioned in one of the following reports this situation is now in good shape. Through the seminars and later contacts Waseda now has fine relations with a large group of industrialists and this is sure to increase with corresponding benefits for both. Furthermore, Waseda has great opportunities to provide educational services for many Far Eastern countries, particularly, in connection with work involving computers.

Another evidence and one of the best indications of the position of success of the Institute is the fact that it is able to sell its services for sufficient money so that it can turn back to Waseda a part of the cost of the overhead.

In conclusion, we would like to say that all of these things have been accomplished in a harmonious manner and with the best of feeling on both sides. The relationship between Waseda and Michigan at all levels has been most gratifying.

Report Material.

The balance of this report consists of three parts. The first, Appendix A, was largely written by Joseph E. Hoagbin, Research Consultant, who spent two years in Japan, and covers some history of the project, but particularly the results in connection with

Operations Research. The second, Appendix B, was written by Professor Stewart Rewoldt of the School of Business Administration and particularly covers recommendations in regard to the marketing problems in Japan. The third, Appendix C, was written by Kichiji Nishino and is included because it gives a Japanese viewpoint of the IRP.

Recommendations.

Our recommendations to Waseda University, at this time, are few because practically everything of this kind has been covered during the last six months of the contract when we were working hard to have the Japanese handle everything and not rely upon the Americans.

The continued success of IRP will depend to a large extent upon having a capable director. This is now the case and we recommend to Waseda to be sure that it is always true. Any diminution of ability at the top will cause a rapid deterioration which will spread through all contracts and it will be a very hard thing to build back up to a high level.

We talked with President Ohama and Dr. Kobe, when they were in Ann Arbor, concerning another field which could be of interest to the Institute. We find many American firms who want representation in Japan but it is impractical for them to have an individual do this. We believe the Institute could represent such firms and do a worthwhile service. We have recommended this idea to three industries in the last month.

We suggest that some improved means be found to inform and make available to industry the management library at IRP.

We suggest that it would be advisable for Waseda to arrange through ICA, if possible, to have at least two men come to Ann Arbor after January 1, 1962, for a period of three or four months to study the administration of an Institute of this kind. We endeavored to interest some of the men, who came from Waseda during the last

four years, in this phase of the Institute without success. However, it is important and Waseda should have at least three men who know something about it.

Let us say as last words that the people representing the University of Michigan, who worked on this project, are very enthusiastic over what has been accomplished and the possibilities in the future. We believe Waseda can carry on and build this Institute into a very potent force in Japan and we wish them every success.

APPENDIX A

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Introduction.

The rapid industrialization of Japan brought with it most of the problems confronted by other nations during such periods. After an initial intense effort to provide production facilities there came the realization that to make maximum use of these many other things must be provided. In Japan, there is an increasing interest in scheduling, cost determination, cost control, inventory control, machine replacement, personnel selection, personnel training, product development, advertising, distribution, economic forecasting, and sales methods. In most companies, the Japanese practices in these areas are antiquated or non-existent.

Early in the work of this contract, contact with Japanese businessmen indicated that only a few were aware of recent developments in industrial engineering, operations research, industrial psychology, and marketing. However, academic people at universities knew of these through knowledge obtained by thorough reading of current European and American scientific literature.

Historically there has been little interchange of information between academic and industrial people in Japan. Industrialists are not kept informed of new techniques for solving business problems and academic people have only theoretical knowledge to pass along to students in their classrooms.

The IRP seminars given for industrialists by Michigan and Waseda personnel served to educate and then stimulate interest in the use of new techniques. Numerous seminars were also given by organizations not connected with this contract. Two such organizations are the Japan Productivity Center and the Japan Union of Scientists and Engineers.

In most cases, knowledge obtained in a seminar is not enough to produce a practitioner and it was expected industrialists would need some assistance in applying the new techniques to their problems. It was clear that a means should be found to make available to industry the services of the many highly qualified mathematicians, statisticians, industrial engineers, and psychologists in Japanese universities. Also, if IRP could be introduced to real company problems, research in productivity could be

problem-oriented as well as technique-oriented. The benefits of interchange between industrialists and scholars has been recognized in other countries, particularly, in the United States where many universities do research for industry on a contract basis.

A part of the Michigan program at Waseda was to develop a capability for doing contract research for interested companies and government agencies. Since this concept at universities was contrary to Japanese tradition, it was impossible to predict the impact on Japanese industry as a whole. It was hoped that the program could be made attractive enough to Waseda and Japanese industry to assure the continued growth of IRP and the concept of university contract research.

Objectives of the Contract Research Program.

The objective of the contract research part of the overall program was to assist Waseda in creating an applied research effort that would flourish after American support was withdrawn. It was felt that, if the limited objectives could be met, then the larger objectives would be realized. In particular the aim was to have IRP by the end of 1960:

- (1) An organization with personnel, space, and tools for doing contract research.
- (2) A nucleus of experienced applied research workers.
- (3) A demonstrated ability to get contracts and perform on contracts.
- (4) Financial self sufficiency so IRP would not be a financial burden to Waseda.

Early Problems.

Setting up a new research institute at any university is not an easy problem and setting up an applied research effort at Waseda promised to be difficult for many reasons, some involving Japanese custom. Some of the questions which arose were:

- (1) Which should come first, the personnel and facilities or the first contract? An organization, personnel, and space for contract research did not exist at Waseda in 1957 when the decision to do contract research was made. What company would let a contract to Waseda if no organization existed? On the other hand, could Waseda be expected to invest in an organization if contract research funds proved later not to be forthcoming?
- (2) Could Waseda find qualified scientists interested in applied research? Traditionally Japanese academic people had shown little interest in industrial problems.
- (3) While Japanese industrialists and government employees had expressed interest in the new techniques, could companies or government agencies be found that would be willing to spend money on this new concept of research at IRP?

Waseda began to look for interested and qualified personnel and Michigan representatives assisted in the search for industrial support. By the summer of 1958 Waseda had two short term contracts and a small nucleus of highly academically qualified scientists with no industrial experience.

As the first IRP employees began to get experience they complained of inability to sleep at night because of the pressure of the applied research work. At frequent meetings in the offices of the sponsoring companies, IRP scientists were reluctant to talk and left most of the burden to Michigan representatives. In all other aspects of the contract research work, IRP scientists appeared to be dependent on assistance of Michigan representatives.

At the time the two short term contracts came up for renewal there was a feeling of inadequacy at IRP and fear the contracts would not be renewed. However, both companies were impressed by the interest of IRP scientists and their obvious knowledge of company problems. Both contracts have been renewed several times. The two original contracts are still in force at IRP.

It now appears Japanese custom may make it easier in Japan to get and keep applied research contracts than in the United States. A Japanese company desiring to undertake research, using new techniques, has two alternatives: (1) Hire a staff of knowledgeable

people. (2) Let a contract with a research institute such as IRP. With the creation of IRP the second alternative is possible for the first time. It may prove to be attractive to Japanese industry because it provides for trying the new techniques without entering into long term commitments. Personnel hired by a company are hired for life, but a contract with IRP can be terminated at any time if the work is not satisfactory.

The vision and faith of a few industrialists and Waseda administrators in the concept of university applied research soon overcame the early problems that seemed almost insurmountable in late 1957 and early 1958. However, the objectives of the contract research program had not yet been accomplished.

Growth of IRP.

The growth of IRP over the past two years has been gratifying and is one indication of the acceptance of the concept of contract research by Waseda administrators and Japanese businessmen. One measure of growth is the number of personnel available for contract research. The table below shows the number of full-time personnel at IRP for contract research and how this number has changed with time:

<u>Year</u>	<u>Full-time Personnel</u>
1957	0
1958	2
1959	10
1960	15

These figures do not include part-time personnel drawn from the faculty and from the ranks of graduate students. Neither do they include computer personnel. The numbers shown apply to the late summer of each year, since contract work actually started in the late summer of 1958 and Michigan personnel left IRP in the late summer of 1960. The 15 full-time scientists at IRP in late 1960 represent many academic fields.

As IRP has grown, so has the participation on a part-time basis of the Waseda faculty. On numerous occasions graduate students have been hired for specific jobs such as manual data reduction.

Full-time personnel at IRP are hired for life and manpower must be increased cautiously. Having qualified faculty and graduate students available on a part-time basis when needed gives IRP flexibility in adjusting manpower to coincide with contract requirements.

As the number of full-time and part-time research workers increased, Waseda made available more and more space. On January 1, 1959, IRP had a full-time Deputy Director and an Assistant Director so there appeared to be no question that Objective (1) would be realized well before the date of the termination of the contract.

Research Contracts.

IRP's first research contract was obtained largely through the efforts of the Michigan operations research consultants and was with a large oil company having main offices in Tokyo. The term of the first contract was three months and the work statement called for IRP to study the company's problems and attempt to formulate a research program. Funds were sufficient to allow men to work on the contract full-time. IRP was understaffed and work was conducted by two full-time men and two part-time men reinforced by faculty members returning after training in the United States. The full-time men were a chemical engineer and a Ph. D. physicist and the part-time men were a member of the Waseda mathematics faculty and a graduate student.

At the end of the three-month period a final report was produced that showed company representatives that IRP had a good grasp of the company's problems. The contract was renewed for another six months and later renewed several times. Work has progressed satisfactorily on this contract with help from Michigan representatives. The work involves using linear programming to solve a variety of problems including blending. During 1959 and 1960 Michigan representatives had little direct contact with the oil company and IRP scientists by their own efforts won the respect of the company. From all appearances the contract will continue.

The second contract also was obtained largely through the efforts of American consultants. This was late in the summer of 1958 for three months and designed to lead to a longer term research

proposal. After several short renewals the company entered into a contract with no specific termination date and calling for a monthly fee to be paid to Waseda. The company is a steel fabricator whose chief products are sash and doors for office buildings. It has been very cooperative and representatives have discussed a large number of problems with IRP personnel.

The contract concerns production scheduling, cost determination, and product planning. The company has been generous and patient with new people. Almost all IRP personnel have worked at some time or other on this contract. In addition to being a valuable source of research problems, the company has proved a valuable training ground for IRP personnel.

Late 1958 and early 1959 were devoted to working on these two contracts and to building staff. A real test of the effectiveness of IRP came with an invitation to visit a large manufacturer of cameras and office copy machines in late 1959. It was rumored the company was interested in letting a contract to IRP.

With no assistance from Michigan representatives, IRP was able to get a three months contract which was later renewed and it appears that a long time association will result. The company has always given the indication it is interested in the work of IRP personnel and not interested in the Americans at IRP. The work has involved problems in distribution, inventory control, service network system design, market research, and sales forecasting. This is an important contract because of the boost in morale given to IRP personnel when they were successful in getting the contract and a contract renewal entirely by their own efforts.

By early 1960 Objectives (2) and (3) appeared to be virtually accomplished.

During early 1960 several key IRP personnel went to the United States as participants. It was necessary for IRP to turn away many requests for research assistance. A market research study was undertaken for a group of electrical appliances manufacturers but a department store desiring a market research study had to be put off until later.

In the summer of 1960 two key scientists returned from Ann Arbor and IRP gave a short course in operations research to the personnel of a large aluminum company. This is expected to lead to a long term contract in the near future. At the time the last Michigan representative left Waseda in late 1960, IRP had been approached by several manufacturers who desired assistance.

While industry's response to IRP and university contract research has not been spectacular, it has been gratifying and promises to be lasting. Waseda has wisely chosen to let IRP grow slowly. In fact, there is some indication it may always be a small group of good people. Certainly the response of Japanese industry has been all that Waseda desires and the burden is on Waseda to lead the way for other universities.

Soon after Dr. Kobe, Assistant to the President of Waseda, was named Deputy Director of IRP, he concluded several contracts with the Japanese government to study problems associated with highway development in Japan.

Funds derived from the contract research program made it possible for IRP to present a check for ¥1,000,000 to the Waseda general fund at a ceremony held in early 1960. This is an indication that Objective (4) was accomplished.

Role of the American Advisors and Consultants.

Early in the contract research program one of the problems was to decide the extent to which Michigan advisors and consultants should participate in the work of obtaining and performing on contracts. The first two contracts were obtained largely through their efforts. Several consultants who followed played a large part in the formulation of problems and in doing the actual work on these first two contracts. At the time these were obtained, IRP scientists appeared to lack drive and confidence not because of a feeling of incompetence but because of lack of experience. If Michigan representatives attempted to force the Japanese to take essential actions and make essential decisions, very little seemed to be accomplished. If the Americans took the lead in an effort to teach by demonstration, there appeared to be a tendency on the part of the Japanese to stand

aside and watch. American advisors oscillated between active and passive roles and it is not possible to say whether the proper balance was struck in the early months of the contract research program. The part to be played by Americans was a subject of frequent discussion at staff meetings and in private conversations between advisors and consultants.

The high caliber IRP scientists were also concerned with the problem of the role of the Americans. They recognized their lack of experience in applied research but they were also confident of their theoretical competence. IRP scientists proved to be adaptable and soon took a more active part in the prosecution of the contract research effort. The following summarizes the functions of IRP scientists and Michigan representatives during negotiation and work on contracts and numerous renewals during the period of the most fruitful interchange in 1959 and early 1960.

Initial Contact With a Company.

Many visits to companies and government agencies were by invitation following seminars. A representative of the company impressed by a seminar, would ask one or more IRP scientists and Americans to give additional talks to personnel of the company. Frequently IRP was approached about a contract or a contract renewal. During these discussions IRP scientists indicated an interest in working for the company and indicated the type of personnel available.

On some occasions Americans were present at these preliminary discussions and helped stimulate interest in IRP activities by discussing work on similar problems in the United States. Frequently the American advisor or consultant was able to give preliminary estimates of the time and effort that would be required to solve similar problems in the United States.

Writing Research Proposals.

On those occasions when IRP was encouraged to write a research proposal, IRP scientists would have several discussions with company personnel to discuss company problems. They would make the final decision about the extent to which IRP could assist the company in the solution of problems.

During this phase of the contract negotiation, the Michigan staff would have discussions with IRP personnel and help to choose problems and to formulate approaches to them. The Michigan staff also assisted in making time and manpower estimates. Final research proposals were written in Japanese by IRP scientists after discussion with Michigan advisors.

Staffing the Research Project.

After the award of a contract or a contract renewal it was necessary to select qualified people to perform the work. Some of the staff came from full-time IRP staff members while some came from the ranks of graduate students and Waseda faculty who could work part-time. The selection of personnel was an IRP function.

After personnel were selected, Michigan representatives sometimes assisted in working out problem statements and detailed assignments and in training of new personnel.

Work on Contracts.

From the beginning, IRP scientists have shown eagerness to work on contracts. While Michigan representatives helped in the laying out of programs, all actual research was always done by IRP personnel.

During the course of research there were periodic discussions with Michigan representatives. The role of the Michigan representatives during such discussions was to offer constructive criticism and supply additional references when needed.

Reporting on Research Results.

During 1959 and 1960 IRP scientists spoke for IRP in the reporting of the results of research. IRP staff prepared all progress reports and briefings for management although Michigan representatives offered numerous suggestions. Michigan representatives were seldom called upon to render assistance in the use of a technique once a technique had been decided upon.

From the standpoint of building a lasting IRP, it is fortunate Waseda was able to staff it with competent technical people who quickly grasped the essentials of the special needs of applied research and that many of these men had the advantage of learning in the United States.

IRP personnel leaned less and less on Michigan representatives and by late summer of 1960, when the last of the Michigan advisors left, were capable of carrying on IRP business without assistance.

Influence of Waseda Administration of Contract Research.

The continuing success of a university contract research Institute, such as IRP, depends on the attitude of the university administrators. In order to attract and hold highly qualified personnel they must be willing to examine existing university policies and change those that conflict with the interests of the research institute. Research personnel require considerable administrative support such as:

- (1) Attractive work space and tools to do research.
- (2) Freedom from worry about job security despite the fact institute income comes from research contracts.
- (3) Time for private study and research.
- (4) Ample clerical support.

All of these were provided by Waseda for IRP. The work space provided is not luxurious but it is as good as some of the office space offered to comparable personnel in American research institutes. IRP scientists are hired with the understanding Waseda will provide a job for life. They receive a basic salary that does not depend on the existence of contracts and a bonus that depends on results. They are not given restrictive supervision and have considerable time for private study, attending technical meetings, and doing private research. A large clerical staff has been provided.

Attitude of Sponsors.

An important element in what appears to be the success of the contract research program at IRP has been the vision of top management at the Mitsubishi Oil Company and the Nihon Kentetsu Company. These two companies were the pioneers.

Michigan representatives have been sensitive to the attitudes of sponsors since continuing success of IRP certainly depends on continued acceptance by sponsors of the concept of university contract research.

While in the early days of the contract research program Japanese companies appeared to be more interested in American consulting than in IRP research, by the end of 1960 all sponsors appeared to be aware that the solution of Japanese business problems requires hard work on the part of full-time research workers.

Attitude of IRP Scientists.

If IRP is to flourish, it is essential to have happy and enthusiastic full-time research workers. Accordingly, Michigan representatives have been sensitive to the attitude of IRP personnel.

There has never been a time when all IRP people were sure they liked applied research. However, there has always been an enthusiastic nucleus and the number of enthusiasts appears to be growing. At the present time the eight most experienced workers are enthusiastic about applied research. This may be due in part to the fact they have done well at this new profession.

By the end of 1960 there appeared to be a genuine interest in and understanding of the concept of contract research and the role of universities in Japan's striving for increased productivity.

Attitude of Michigan Representatives.

Conversations with Michigan representatives who have worked at IRP has shown a shift in attitude from one of dismay to considerable optimism. There was a time when the contract research program showed little promise largely because of the inexperience of IRP personnel and their apparent lack of interest. As the efforts of IRP personnel were more and more recognized by Japanese industrialists, enthusiasm grew and by mid-1960 there was little question in the minds of Michigan representatives that IRP was a healthy going organization.

APPENDIX B

Marketing Recommendations.

The marketing activity of the Institute is less well established and developed than the operations research or industrial engineering activities. Because this is the case it is imperative that continued effort be devoted to further development of a marketing facility within the Institute. In making this effort it is recommended that the following points be adequately considered.

1. Continued emphasis on marketing seminars.

The marketing seminars have been very successful. They have contributed directly to a better knowledge and understanding of marketing among Japanese businessmen. They have contributed to the financial success of IRP. They have led to sponsored research contracts. These things they can continue to do in the future.

The most important problem in continuing such seminars is to find qualified speakers. In the past, American advisors have borne most of this burden, but they will no longer be available. The two young IRP staff members specializing in marketing work can assist in such seminars, but they have neither the educational nor practical experience background to carry the major burden. It therefore is imperative to find other persons to handle this assignment. The best thing would be to add to the staff an experienced marketing man. The marketing faculty at Waseda could be called on to participate in such seminars. Consideration might also be given to inducing marketing personnel from leading Japanese companies to participate as speakers. This is common practice in the United States, but relatively rare in Japan. Such people have much to contribute.

Future IRP seminars might take more of a case study approach. This would be ideal, of course, if businessmen were to participate. If emphasis could be placed on research that has been done by IRP it would help to publicize the Institute. Also this would get away from the practice of emphasizing American marketing practices and focus on the Japanese situation.

2. Provision of a general marketing consulting service.

As is apparent from previous discussions of marketing in Japan many of the problems do not require sophisticated research for solution. Rather, the errors being made are obvious to anyone with a reasonably good knowledge of marketing principles. Such a consulting service to industry could be rendered by IRP if a qualified marketing man were added to the staff.

A consulting service of this sort would not only do much good for Japanese industry, and provide revenue for IRP, but would also lead to many opportunities for research projects. Research opportunities are all too often not visible to management unless pointed out to them by outsiders. It is the old case of not seeing one's own problems in proper perspective.

3. Development of a marketing research facility.

The Institute has made good progress in developing its ability to do marketing research. As already noted, the biggest remaining problem is to add qualified personnel in this specialty. A few other recommendations, however, are also in order.

An attempt should be made to educate business about the limitations as well as the possibilities of marketing research. There exists an attitude among businessmen that demand forecasts can be made with extreme accuracy and at very low cost. Unfortunately, this is not the case. Demand forecasting involves many subjective variables, the basic statistics necessary to demand forecasting are not available in many industries, and field work necessary to accumulating market information is tedious and costly. It should be stressed that business must always forecast. It is constantly doing so when it makes decisions that bear in any way on the future. A carefully arrived-at forecast, even though not highly accurate, is usually far better than an off-hand guess.

Because marketing research deals with more intangibles it is less suited to highly refined mathematical research techniques. It is a mistake to limit research to those problems where such techniques are applicable as this greatly reduces the field for

research. Research which might be considered rather crude in terms of techniques can often be very helpful in decision making. Therefore such research should be undertaken.

It would be a mistake for IRP to get too involved in the survey business. Surveys are a small part of marketing research, yet are often thought of as synonymous with marketing research. Such work requires a large staff, involving substantial fixed cost, yet its rate of utilization varies greatly. It would be far better to farm out work of this sort.

4. Augment the Institute's marketing staff.

As has been stressed several times, the Institute's marketing staff is not fully adequate to the opportunity to do marketing research for Japanese industry. Needed above all else is one senior staff member with an interest and professional competence in this field. His guidance of the existing younger staff members would ensure effective progress in development of a marketing capability in the Institute.

APPENDIX C

MY OPINION ON IRP AT THE WASEDA UNIVERSITY

by

Kichiji Nishino

December 28, 1960

What Should be the Organization for IRP?

IRP was established in 1956 for the purpose of "conducting comprehensive research in industrial productivity and its related problems from technical, economic, commercial, and legal standpoints." (Quoted from "General Information Bulletin" of Waseda University, 1957)

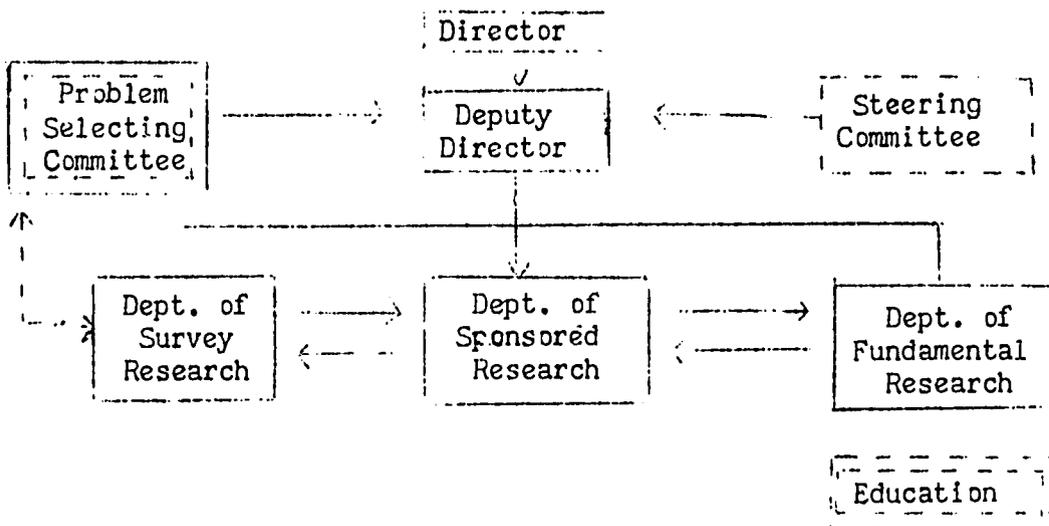
The founding of IRP was apparently a direct result of the University of Michigan - Waseda University contract which was sponsored by the United States International Cooperation Administration, and it is also considered as a result of the foresight of men such as Waseda University's President Ohama who advocates the necessity of much more cooperation between university and industry.

Its first activity commenced in the summer, 1957, when the U.S. team from the University of Michigan presented seminars in Operations Research for Japanese management and O.R. practitioners. Then, in summer 1958, IRP started to handle two sponsored research projects hiring some full-time researchers. Until that time IRP operated in a somewhat informally organized manner, but now IRP has six sponsored research projects on which about 10 full-time researchers are working. These projects are mainly concerned with the industrial operations research, marketing research, and human relations.

As was described in the "General Information Bulletin" of Waseda University, 1957, IRP should be responsible for much more far-reaching problems. For example, in the future, it will be desirable for IRP to study what effect is to be expected from a particular governmental economic policy. This seems to be very important in Japan. For, although there are several research institutes of economics, they do not seem to study and estimate adequately the effect of a particular economic policy upon the actual economic situation after the policy is implemented because of a lack of specialists in various fields.

IRP can have such an organization. The objective of IRP does not lie in studying economics itself, but IRP should not neglect the fact that productivity cannot exist independently from economics. Therefore, it seems to be not too much to say that the organization of IRP should be constructed in such a way that IRP is the very organization that the government can trust the study of its economic policy to it.

Considering the above mentioned idea, the following organization might be considered better:



Director must be the President of Waseda University in order to make it possible to get cooperation from various departments.

Department of Survey Research would be necessary in order to collect various data or informations concerning economics, productivity, industrial situation in foreign countries, especially in the United States, so as to get a good contact with American industry, and so on.

The Problem Selecting Committee must be responsible for making decisions what to study as a big problem, such as a governmental economic policy, and also selecting sponsored research projects. This committee should have occasionally outside specialists, and the Department of Survey must have a close connection with this committee.

In general, all research institutes must have a great margin in researcher and its activity in order to carry out good research. In this sense the Department of Fundamental Research would be necessary and this department should also be responsible for educational service.

As in the past, the Department of Sponsored Research should have several sections dealing with researches of marketing, human relations, computer application, operations research, and other industrial engineering.

This plan will need several hundred researchers and may seem to be a dream at present, but we must endeavor to realize this ideal.

What Kinds of Activities Should IRP Perform?

- (a) For the University: IRP should provide the University students with educational activity (especially of graduate course) in the management science. It seems to be a good idea for IRP to set up a night school of management science at the graduate level. The system of the night graduate school of Columbia University in New York will be a good guide to this idea.
- (b) For industry: Since IRP has an original aim to set up cooperation between university and industry, it should be able to solve various problems confronting the industry. In order to pursue this, IRP should positively accept sponsored research projects, but it is desirable that they are educational.
- (c) For other Asian countries: It is very important for Japan to help develop other Asian underdeveloped countries in all senses. IRP should also be responsible for their improvement in productivity, teaching them various techniques we learned. At first, IRP must have a close connection with them.