STAFF STUDY No. 18

Manpower Planning in Industry

A Case Study

by B. A. Keys and H. H. Wright

Prepared for the
Economic Council of Canada

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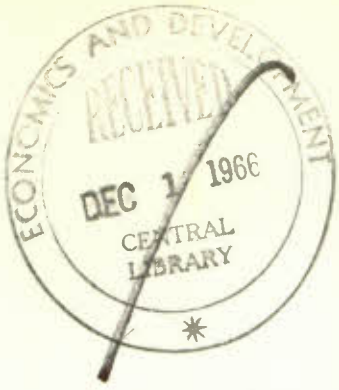

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B.A. Keys H.H. Wright

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I – INTRODUCTION

Both the *First* and *Second Annual Reviews*[1] of the Economic Council of Canada have emphasized the importance of an adequate supply of properly trained, highly skilled manpower for the achievement of our economic goals in the years ahead. This survey was undertaken during 1965 to obtain information on educational and skill requirements and manpower planning within a group of leading Canadian business firms.

Recognizing the difficulty, if not impossibility, of predicting specific manpower requirements with accuracy, our study was concerned primarily with shifts and trends and did not aim to produce quantitative forecasts of manpower needs either for the economy as a whole, or for subdivisions of it. Moreover, the trends that emerged were based upon the skills and training that these companies would like to have available to meet their anticipated requirements, and were not intended to represent a prediction of actual placements. Whether desired skills do in fact become available or whether substitutes have to be accepted depends, of course, upon appropriate supplies of manpower being educated and trained to meet the requirements that develop.

The survey was carried out with four main objectives in view:

(1) To obtain information on the direction of forward shifts and trends in manpower requirements which would be of use to educational and training authorities
(2) To provide information within participating companies which would be of use to them in planning their own manpower requirements
(3) To explore with the companies surveyed the procedures, problems and possibilities associated with corporate manpower planning, and to encourage and stimulate much more extensive activity in this area
(4) To contribute information that would be useful to educators, employers and employee organizations in developing an effective exchange of better intelligence about the future supply and demand for various skills and training.

More manpower planning based on better information is clearly desirable for a variety of reasons:

One reason is the apparent critical shortage of trained personnel, especially in the technical, professional, managerial and skilled categories. To help avoid such a shortage in the future, it is necessary to anticipate and meet evolving

[1]Economic Council of Canada, *First Annual Review: Economic Goals for Canada to 1970*, December 1964; *Second Annual Review: Towards Sustained and Balanced Economic Growth*, December 1965; Queen's Printer, Ottawa.

manpower requirements by the development of timely and appropriate educational and training programmes, both in-school and in-plant. In its *Second Annual Review* the Economic Council of Canada stated that it is imperative "... that strong efforts be made both within government and the private sectors ... to help to ensure a better matching between the education and training being provided in the educational system and potential requirements for manpower." It is of the utmost importance, therefore, that steps be taken now to provide appropriate education and training for as many as possible of the 1,000,000 persons expected to enter the work force between 1965 and 1970. In those instances where it is necessary to supplement domestic sources of supply by immigration, advance knowledge of requirements would enable immigration authorities to take action before shortages actually occur.

Better information and planning of manpower requirements would also permit a closer matching of the specifications of jobs and the qualifications of the persons currently available to fill them, and hence would help attain the vital objective of increasing productivity. The growth of productivity depends on many factors but one of the most fundamental of them is increasingly effective use of manpower. As companies grow larger and more diversified both operationally and geographically, a systematic method of recording and identifying the qualifications of employees becomes essential for such matching to be achieved effectively.

Manpower planning would provide for effective employment of manpower by identifying persons at all levels in the organization who need further education or retraining. Such identification would be particularly useful, for example, in the case of the mid-management 30-39-year-old group which, as pointed out in the *First Annual Review*, will decline in numbers during the years to 1970. The skills and talents of this group will have to be developed to a maximum and used with greatest possible efficiency.

Forward manpower planning can also provide advance identification of the effects on employment of automation and technological change and so permit more orderly, planned adjustment.

Labour mobility programmes will be fully effective and successful only if based upon advance information and careful planning to provide suitable jobs for those who are prepared to move.

Finally, improved identification of future employment opportunities will provide valuable guidance to individuals, especially the youth of the nation, faced with career decisions. This factor has particular relevance during the period to 1970 when so many persons are preparing to enter the work force. Career decisions are influenced, of course, by individual aptitudes and personal preferences, as well as anticipated job openings. Nevertheless, better information on employment trends can be expected to make a substantial and constructive contribution towards more effective matching of education and training with potential manpower requirements.

II – SCOPE

Since we recognized that our work would be experimental to a considerable degree at this stage, and since we wanted to explore rather intensively each participant's situation, a moderately small number of companies was selected. They were chosen with a number of criteria in mind.

First, companies were invited to participate only if they were already engaged in manpower planning or, alternatively, interested in a study of the type we were undertaking. Secondly, we wished to obtain the co-operation of strong organizations which would not only contribute useful ideas and constructive appraisal but which could also commit the resources required to develop the information for the survey.

Subject to the foregoing considerations, it was desired, of course, that the companies surveyed should represent as broad a cross-section as possible of industry and commerce in Canada. The coverage obtained was extensive, including 17 companies[1] representing heavy industry, mining, oil, chemicals, pulp and paper, consumer durables, and non durables, transportation, utilities, distribution, communications, and banking. The participating companies employed in 1965 just over 350,000 persons, or approximately five per cent of the total Canadian work force. Employment per company averaged around 20,000. For two thirds of the participants, employment ranged between 10,000 and 19,000. The smallest company reported a payroll of just under 5,000.

Consequently this survey reflects, for the most part, the situation in large rather than medium-sized or small companies and was confined to industrial and commercial activities. It does not in any sense constitute a representative sample of the entire labour force and should not be interpreted as such. It did not, for example, cover governments, the educational and training system itself, professional firms and partnerships, or health and community services.

Neither was primary attention directed in this study to the important area of efficient utilization of the skills and training of present employees. Rather, as we pointed out in the introduction, we chose at this stage to concentrate on anticipated shifts and trends in requirements. At the same time we recognized that better manpower planning would "... permit a closer matching of the specifications of jobs and the qualifications of the persons currently available to fill them". In a later section of this report dealing with a Review of Current Manpower Inventory, it is observed further that "... it (the current inventory) should also provide valuable information as to the qualifications, suitability and utilization of the present staff in the current operation of the company". It will be noted too that some companies did make reference in our discussions with them to more effective utilization of existing supplies of manpower.

[1]The survey actually covered 18 companies but one was in the midst of programming its manpower information for computer processing and was unable to furnish a projection of its entire work force. As a result the statistical data used represent 17 companies only.

Considerable thought was given to the period over which manpower information should be sought. In considering a five-year projection to 1970, it was clearly recognized that many educational programmes required more than five years for completion, and that many prospective entrants into the work force in 1970 will now be beyond the decision point in their careers in respect to their education. On the other hand, we believed, and companies subsequently confirmed, that to attempt to project further forward would not have been practicable. It seems reasonable to assume, though, that the trends will likely extend beyond 1970.

III – PROCEDURE

As one of the objectives of our study was to explore the subject of manpower planning in some depth, it was considered essential that a case study or interview approach be employed. In this way we had the benefit of frequent consultation and discussion at various stages while the manpower information was being assembled, and finally, of course, when the results were communicated to us.

Considering also that one of the main purposes of the survey was to obtain information that would be of use to educational and training authorities, it was designed to produce results in terms that would be directly applicable to the educational and training system. Moreover, it was necessary to devise a classification system that would fit the various types of businesses represented in the survey, but would at the same time permit the separate results from the participants to be compared and consolidated. The thorough discussions permitted by the interview approach were, of course, of significant assistance, too, in meeting these requirements.

With these aims in mind, a tentative classification system was devised and introduced at preliminary discussions with three major corporations which had been selected for participation in our survey. These consultations led to the adoption of a basic format reproduced as Appendix A, for data collection.

The classifications used in the Summary Form, Appendix A, are a combination and modification of those employed in the OECD Mediterranean Regional Project[1], and those in the International Standard Classification of Occupations[2]. The educational and training subdivisions across the top of the form are rather straightforward, in that they conform to the educational and training system as it is generally known. It will be noted that Class B, the Post High School category, identifies the technological institute as representative of all technical training at this educational level. We are aware, of course, that not all provinces use the term technological institutes in their educational systems, but within our group of companies this terminology seemed most clearly descriptive.

The "All Others" category within Class B comprises such training as accountancy and all other nontechnical education falling into the broad area between high school and university graduation. The graduates of the developing junior colleges, community colleges, or comparable institutions, fit appropriately into Class B. In Class C, the Non High School classification was designed to include employees who had not completed but might have some high school education.

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[1]OECD, The Mediterranean Regional Project, *Forecasting Educational Needs for Economic and Social Development*, Paris, October 1962.

[2]International Labour Office, *International Standard Classification of Occupations*, Geneva, 1962.

A number of companies, accustomed to regarding employees in terms of the function they perform, had a degree of difficulty adjusting to our breakdown of occupations. Again, however, since a primary objective was to provide useful information for educational, training and manpower planning purposes, it was considered important that occupations be regarded from the standpoint of the education or training of the present work force and of comparable requirements in the future. Recognizing, too, the impracticability of trying to forecast specific manpower requirements in detail, the occupational classification was broken down into fairly broad groups only. Nevertheless, if companies found this breakdown still too detailed, they were invited to make use of broader groupings and could, for example, include all engineers as a single item.

After the Summary Form was finalized for data collection, the balance of the group was selected. This was done by preliminary contact with the chief executive or a senior official of prospective participants, followed by an introductory letter, reproduced as Appendix B, outlining the scope and purpose of the survey. An initial meeting was then held with company representatives to discuss and explain the survey in more detail and to obtain confirmation of their desire to take part. They were provided, on this occasion, with a copy of the introductory letter, copies of the Summary Form, and an explanatory memorandum (Appendix C).

The latter, it will be noted, dealt mainly with the interpretation and use of the different classifications in the Summary Form. It specified, too, that estimates for future years should take into account not only anticipated changes in numbers to be employed in various occupational groups, but also changes in the qualifications desired for these occupations. Since one of the objects of the survey was to help influence supply, rather than be influenced by it, companies were asked to estimate forward manpower requirements on the assumption that adequate supplies would be available in all categories to meet total needs. Reference is made in this explanatory memorandum to Annual Forms which were also made available for estimating requirements from year to year during the period under study. It was found, however, that there was little need for such forms in practice and that the Summary Form was the only one generally used.

In the light of discussions with participants as the survey got under way, it appeared useful to send out a supplementary memorandum, shown as Appendix D, to deal with a number of procedural points which had arisen. In it, companies were reminded that as large numbers of present personnel would still be employed in 1970, these employees should be shown with their actual qualifications at that time. Thus, changes in qualifications desired for certain occupations could be made only through additions to the present work force, except where qualifications of the latter could be raised to desired levels.

When the manpower projections were nearing completion within some of the companies, a further letter, reproduced as Appendix E, was sent out pertaining to the more general objectives of the survey. It proposed a rather broad review of manpower aspects of company operations and enclosed a suggested discussion outline, shown as Appendix F.

IV – FINDINGS AND RESULTS

The data provided by the companies were consolidated and summarized to highlight anticipated trends in manpower requirements by both education and occupation. The educational classification was subdivided into four main categories: University Graduates, Post High School, High School Graduates and Non High School Graduation. Similarly the occupational classification provided a breakdown of white-collar workers into Professional and Administrative, Technical, Sales, and Clerical, and blue-collar workers to Skilled, Operatives and Other Semi-Skilled, and Labourers. The educational categories were further divided into technical and nontechnical components.

The results are presented to show, for the years 1965 and 1970, each category as a percentage of total employment surveyed, the percentage increase during the period, and its share of the distribution of the net new job requirements anticipated. The figures for net new job requirements were reached by deducting the number of jobs the companies expected would disappear by 1970 from the total new job requirements they anticipated.

The participating companies emphasized that they did not claim to be able to predict requirements accurately by exact number, or specific qualification, as far forward as five years. Moreover, they regard a considerable degree of interchange among specific disciplines as normal and necessary; for example, in a number of different industries and for several occupations, one type of engineering, scientific or technical training is approximately as applicable and useful as another.

One of the larger companies expressed a view that was shared by a number of the others in the survey:

> "Our company, like most companies, has made numerous studies of projections of various kinds. Few have presented greater challenge from the point of view of identifying and taking into account all of the factors that can affect the equation which will predict future manpower requirements in terms of education or training.
>
> We feel that such a study is of value not only to educators but to ourselves and we are grateful for the opportunity this study has afforded us to gain some experience in the important area – manpower planning. We do not feel that our part of the study had resulted in a completely accurate and reliable measure of future manpower requirements, but we do feel that the trends pointed out are both significant and useful."

Trends in Educational Requirements

A composite summary of the trends in educational requirements for the group of 17 companies appears in Table 1. For each category it indicates the

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composition of the total work force[1] in 1965 and 1970, the percentage increase between these two years, and the distribution of net new job requirements anticipated during this period.

TABLE 1

Summary of Indicated Trends in Manpower Requirements in 17 Companies
By Educational Classification

	Percentage of Work Force		Percentage Increase in Number of Workers Required	Percentage Distribution of Net New Job Requirements
	1965	1970	1970 over 1965	
University Graduates	4.1	5.5	45.9	21.4
Technical and Scientific	*2.6*	*2.9*	*23.4*	*6.9*
All Other	*1.5*	*2.5*	*84.8*	*14.5*
Post High School	4.2	5.4	41.8	20.1
Technological Institute	*1.1*	*1.9*	*79.9*	*10.5*
All Other	*3.0*	*3.6*	*27.4*	*9.6*
High School Graduates	26.9	34.0	37.3	115.3
Technical High School	*3.8*	*4.6*	*32.1*	*13.9*
Regular High School	*20.8*	*25.9*	*35.5*	*84.7*
Plus Vocational or Trade School	*2.3*	*3.5*	*61.9*	*16.7*
Non High School Graduation	64.8	55.1	–7.6	–56.8
Vocational or Trade School	*2.6*	*2.7*	*13.7*	*4.1*
All Other	*62.3*	*52.4*	*–8.5*	*–60.9*
	100.0	100.0		100.0

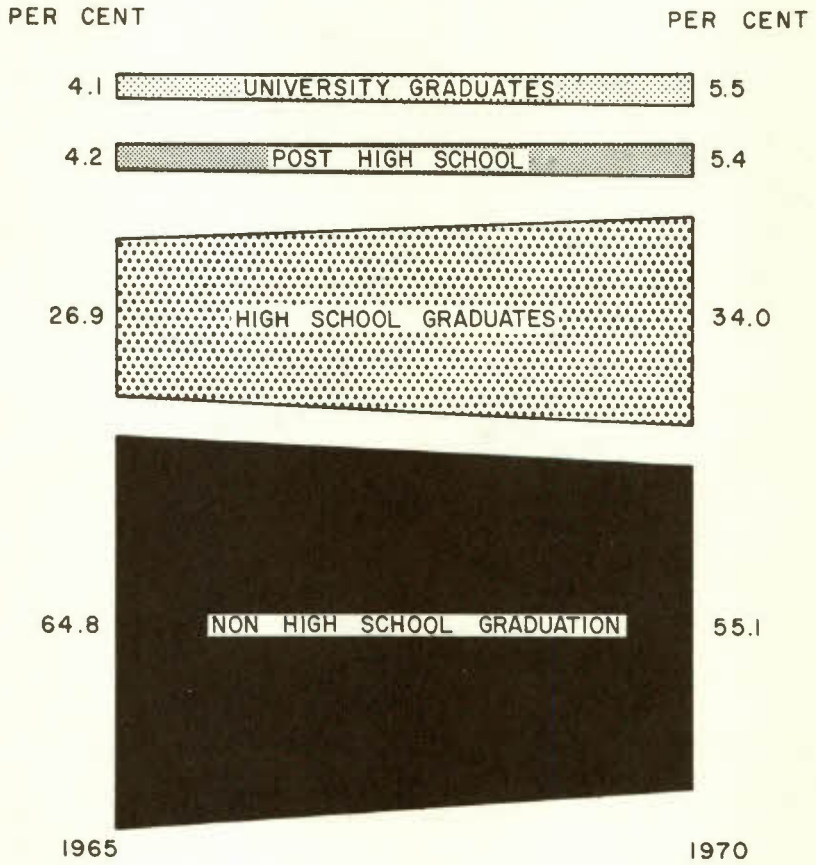
Composition

All educational categories down to and including high school graduates represent a higher proportion of the 17-company work force in 1970 than they did in 1965. The non-high-school segment reflects, on the other hand, a marked decline from approximately 65 per cent to 55 per cent in its share of total payroll (see Chart 1). It will be noted, however, from Table 1 that the reduction in the non-high-school category represents a net decline which is wholly attributable to a substantial drop in the non-trade-school component of it. For workers with vocational or trade school training, but without high school completion, it is estimated that their proportion of the work force will remain essentially constant to 1970.

[1]The term work force is used throughout this report to refer to the number of persons employed by the 17 companies which participated in the survey.

CHART I

TRENDS IN COMPOSITION OF WORK FORCE IN 17 COMPANIES BY EDUCATIONAL CLASSIFICATION (1965 TO 1970)



University graduates and those with post-high-school education are each estimated to increase their share of the work force from around 4 per cent in 1965 to approximately 5.5 per cent in 1970. Likewise, high school graduates are expected to increase from some 27 per cent to 34 per cent and non-high-school graduates, though shrinking as a group, are estimated to still account for over 50 per cent of all employees in 1970. This is due to a considerable extent, to the fact that regardless of educational background or ideal suitability, large numbers of the present stock of personnel will still be employed in 1970. As mentioned in our explanatory notes to participating companies, most of the changes in the basic qualifications of the work force would come about through additions to the existing stock of personnel. The rates at which changes are required are considered in the following section.

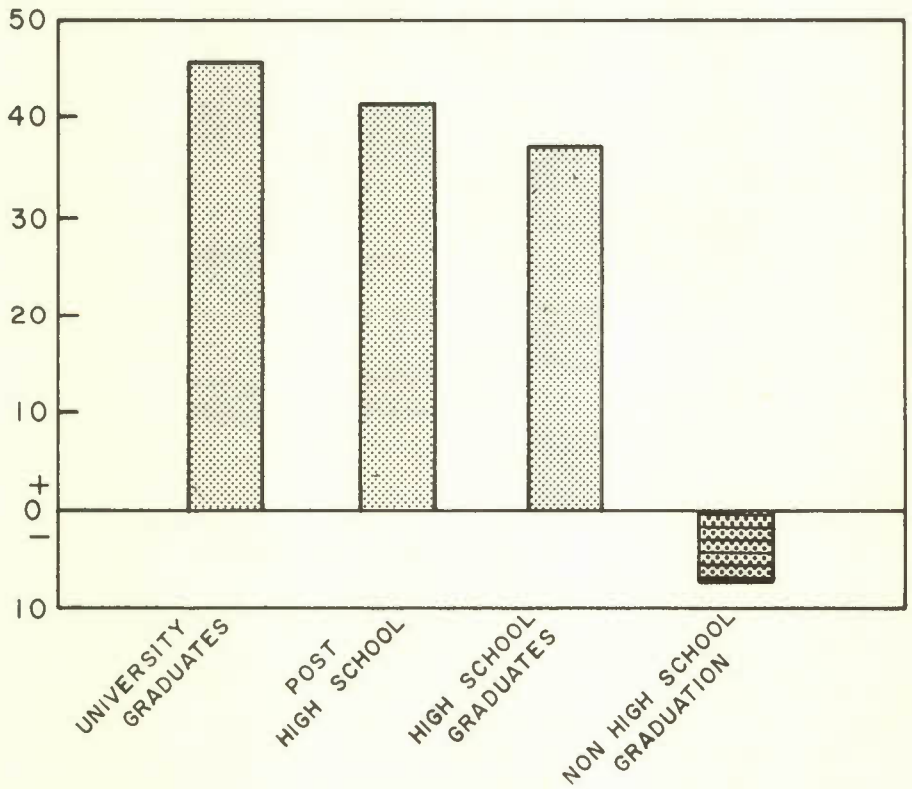
Rates of Change

Calculation of the percentage change within educational categories reveals a decided shift in anticipated requirements towards higher levels of formal education. Concurrently, a distinct decrease in demand appears for persons with limited education.

The greatest rates of increase in demand will be for university graduates and post-high-school education followed by a lesser but still substantial increase for high school graduates (see Chart 2). On the basis of the preferences stated by the 17 companies included in our survey, most persons who have not completed their high school education can anticipate a marked decline in opportunities for employment.

CHART 2

RATES OF INCREASE IN
INDICATED MANPOWER REQUIREMENTS IN 17 COMPANIES
BY EDUCATIONAL CLASSIFICATION (1965 TO 1970)



Within the foregoing broad educational categories some distinct trends are evident. Extending the basic trend towards higher educational levels, Table 2 indicates that the growth in the anticipated requirement for university post-graduates is higher than for first degree graduates.

TABLE 2

Growth in Anticipated Requirements of University Post Graduates and First Degree Graduates in 17 Companies 1965 to 1970

	Percentage Increase in Number of Workers Required 1970 over 1965	Percentage Distribution of Net New Job Requirements
University Post Graduates	54.6	3.0
Technical and Scientific	*50.0*	*1.5*
All Other	*60.2*	*1.5*
University Graduates – First Degree	44.7	18.4
Technical and Scientific	*20.4*	*5.4*
All Other	*88.9*	*13.0*
All University Graduates (Table 1)	45.9	21.4

Within the post-graduate category the percentage increase for technical and scientific training is approximately equal to that for nontechnical pursuits. On the other hand, at the first degree level, substantially the greatest requirement is for nontechnical graduates.

As illustrated in Table 1, the converse appears in the post-high-school groups where the projected growth in demand for technological training is much higher than for nontechnical. At the secondary school level a substantial and approximately equal increase in the rate of growth in demand is shown for both regular high school and technical high school. However, there is a much greater increase in anticipated requirements for either when supplemented by vocational or trade school training.

Even for employees without a high school background, a continuing requirement is shown for vocational or trade school instruction. It is for those with neither high school nor trade school qualifications that stated anticipated demand drops significantly in these companies.

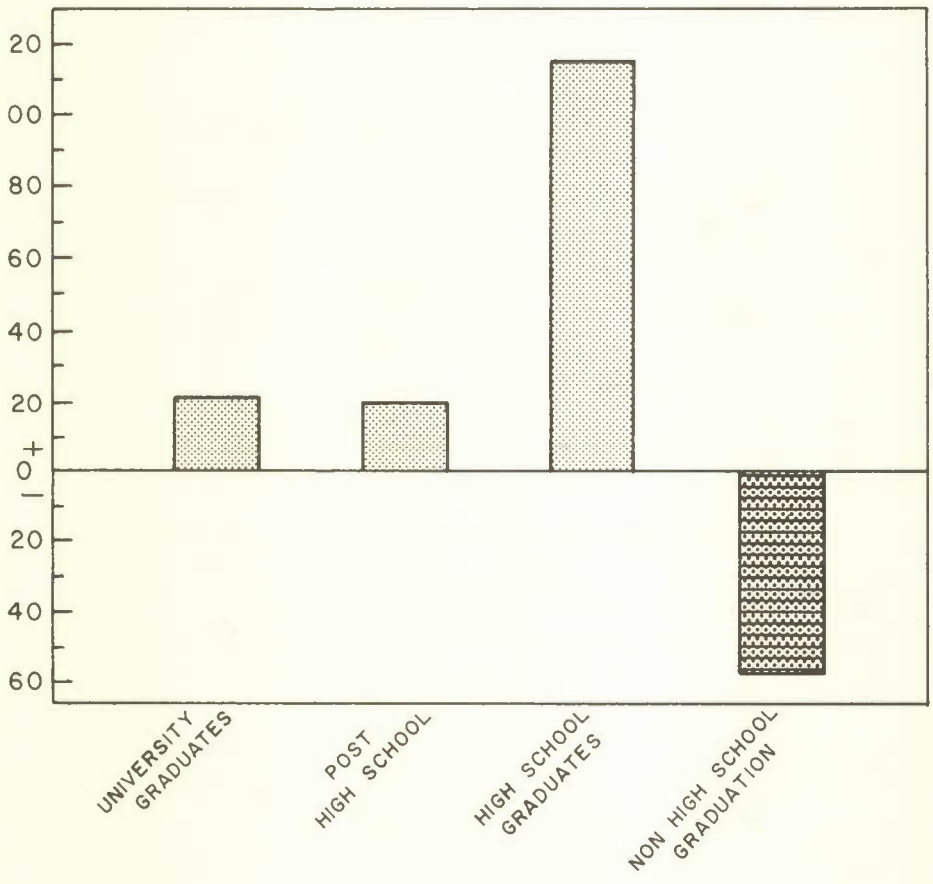
Trends in Distribution of Indicated Net New Job Requirements

As we have seen, the *rates* of increase in projected requirements are greatest for higher levels of education. However, because of the relatively small proportion (approximately 5½ per cent) of the work force in each of the university and post-high-school categories, the greatest *number* of new job opportunities is expected in the much larger high school graduate category which is estimated to represent 34 per cent of the work force in 1970.

This effect is illustrated by segregating, as in Tables 1 and 2, the distribution of the net increases in job requirements to be filled during the five-year period to 1970. Table 2 indicates that while the need indicated for university post-graduates is only a fraction of that for first degree graduates, this fraction represents an anticipated need to 1970 for a university post-graduate for three of every 100 net new job requirements. University and post-secondary-school graduates combined represent over 40 per cent of the candidates to be sought for the net new requirements (see Chart 3). The number of high school graduates required is actually greater than the net number of new job opportunities, the balancing factor being the substantial decline in stated requirements for those without either a completed high school education or vocational or trade school training (see Table 1).

CHART 3

PERCENTAGE DISTRIBUTION OF
INDICATED NET NEW JOB REQUIREMENTS IN 17 COMPANIES
BY EDUCATIONAL CLASSIFICATION (1965 TO 1970)



Along with this evidence of greatly increased job opportunities for those with higher educational attainment, goes comparable anticipated financial rewards. Census statistics[1] reveal that in recent years persons in general with a completed high school education have had lifetime earnings approximately 50 per cent greater and persons with a university degree almost triple those with elementary schooling only.

Occupational Trends

A composite summary of trends in manpower requirements from the standpoint of occupations is shown in Table 3. It follows the same pattern used to present the corresponding educational trends. For each category the table shows the composition of the work force in 1965 and 1970, the percentage increase between these two years, and the distribution of anticipated net new job requirements.

TABLE 3

Summary of Indicated Trends in Manpower Requirements in 17 Companies
By Occupational Classification

Occupational Groups	Percentage of Work Force		Percentage Increase in Number of Workers Required 1970 over 1965	Percentage Distribution of Net New Job Requirements
	1965	1970		
Total White Collar	41.3	41.5	9.5	44.9
Professional and Administrative	*11.2*	*12.2*	*18.5*	*23.9*
Technical	*4.4*	*5.5*	*35.3*	*18.0*
Sales	*5.3*	*5.1*	*4.7*	*2.8*
Clerical	*20.4*	*18.7*	*0.1*	*0.2*
Total Blue Collar	58.7	58.5	8.2	55.1
Skilled	*15.6*	*16.0*	*11.3*	*20.3*
Operatives and Other Semi-Skilled	*28.8*	*28.5*	*7.5*	*24.8*
Labourers	*14.3*	*14.0*	*6.1*	*10.0*
	100.0	100.0		100.0

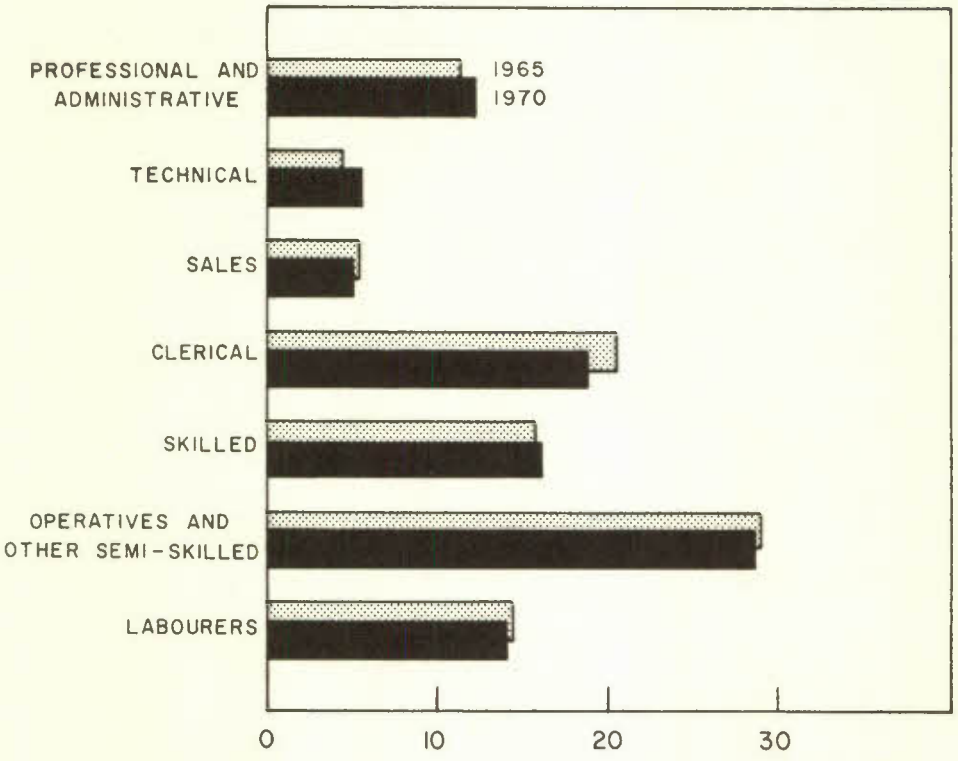
Composition

The largest occupational group in 1965 was Operatives and Other Semi-Skilled, representing almost 30 per cent of the work force, followed in order by Clerical, Skilled, Labourers, Professional and Administrative, Sales, and Technical, with each of the latter two accounting for only around 5 per cent of employment. These same relative orders of magnitude are expected to be maintained to 1970, with the exception of the Technical and Sales categories (see Chart 4). The Professional and Administrative, Technical and Skilled categories show increased shares of the work force in 1970 relative to 1965 while Sales, Clerical, Operatives and Labourers show declines.

[1] J.R. Podoluk, *Earnings and Education*, Dominion Bureau of Statistics, 1965.

CHART 4

TRENDS IN COMPOSITION OF WORK FORCE IN 17 COMPANIES BY OCCUPATIONAL CLASSIFICATION (1965 TO 1970)

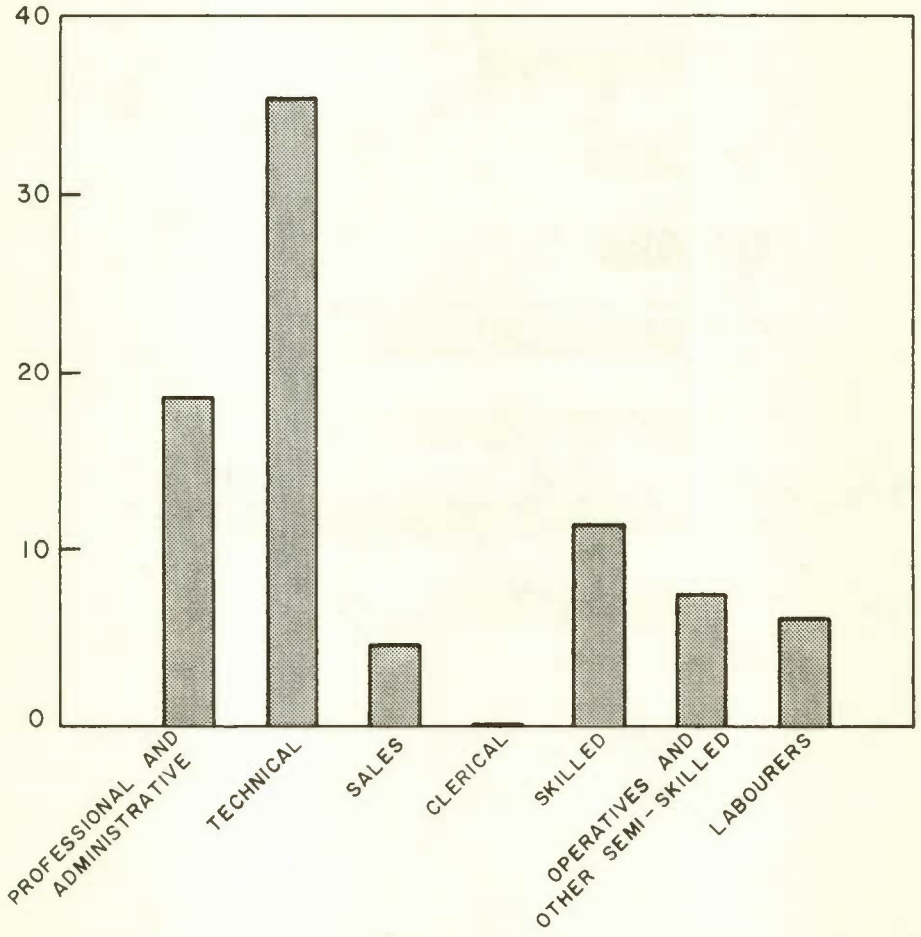


Rates of Change

The requirements for all occupational groups are expected to enjoy some degree of growth during the period from 1965 to 1970 (see Table 3). The extent varies from a high of approximately 35 per cent for the Technical category to a virtually negligible increase indicated for the Clerical group (see Chart 5). Ranked in descending order, the rates of growth anticipated are: Technical, Professional and Administrative, Skilled, Operatives, Labourers, Sales, and Clerical.

CHART 5

RATES OF INCREASE IN INDICATED MANPOWER REQUIREMENTS IN 17 COMPANIES BY OCCUPATIONAL CLASSIFICATION (1965 TO 1970)



Trends in Distribution of Indicated Net New Job Requirements

The majority of anticipated new job opportunities is fairly evenly divided among Professional and Administrative, Technical, Skilled, and Operative occupations (see Chart 6). As indicated in Table 3, Professional and Administrative, and Technical occupations are expected, however, to account for around 42 per cent of total net new job requirements. Labourers can anticipate a considerably lesser but still substantial 10 per cent of all new requirements while Sales and Clerical, especially the latter, can look forward to only very minimal participation in the anticipated new job requirements in the 17 companies surveyed.

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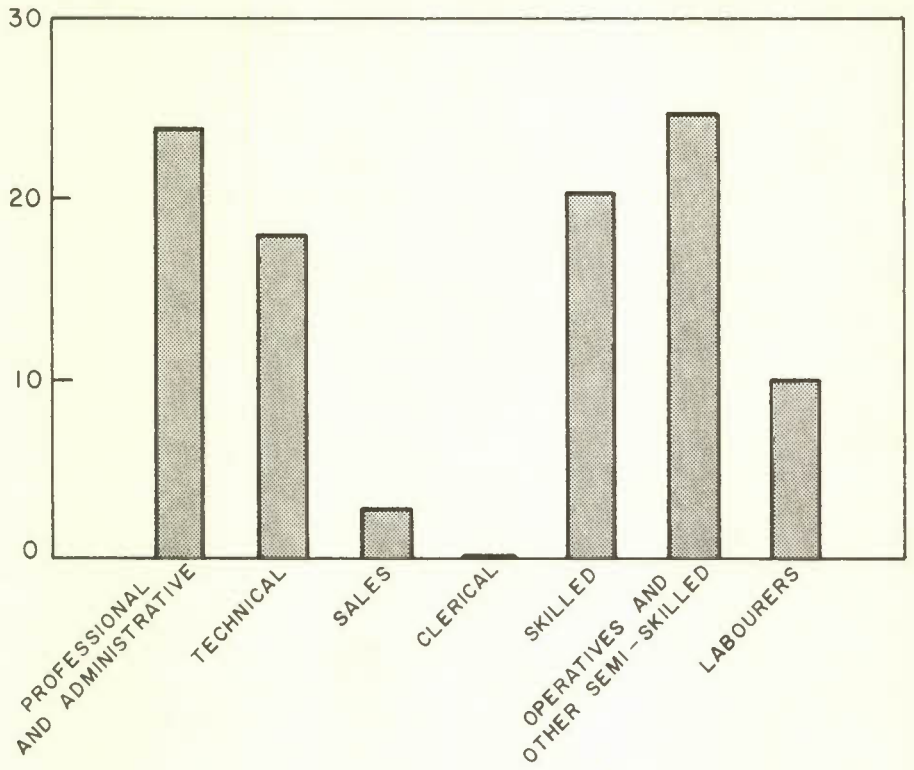
CHART 6

PERCENTAGE DISTRIBUTION OF INDICATED NET NEW JOB REQUIREMENTS IN 17 COMPANIES BY OCCUPATIONAL CLASSIFICATION (1965 TO 1970)



White-Collar and Blue-Collar Workers

It will be noted in Table 3 that white-collar and blue-collar workers are expected to show an approximately equal rate of growth in employment between 1965 and 1970, with a slight margin favouring white-collar workers.

A tendency is indicated, too, for the latter to increase slightly their share of the total work force at the expense, of course, of the blue-collar workers.

On the other hand, because of the larger proportion of blue-collar workers presently employed, their projected growth rate, while a little lower than for white-collar workers, is likely to result in the former receiving a somewhat larger share of the new job requirements.

General Findings

Summarizing the quantitative type of result within the group of companies surveyed, the greatest requirements in terms of rates of growth are shown in the areas where the greatest shortages already exist, i.e. Technical, Professional, Managerial, and Skilled categories.

From an educational standpoint a marked shift in preferred requirements is indicated towards higher levels of formal education. This upgrading is based mainly on two considerations:

- As more sophisticated and expensive equipment is placed in use it is often necessary to have persons with higher educational qualifications to operate and especially to maintain it.
- Higher educational attainment contributes generally to increasing productivity and in particular, it facilitates further training and retraining as conditions and job requirements change over time.

It is noteworthy, though, that the labourer group, which shows a slight decline in its proportion of the work force, will account for a significant share of anticipated new requirements. Some of the companies in our survey indicated substantial increases in their requirements for labourers for certain routine jobs which were expected to remain characteristic of their particular operation. They maintain that to employ persons with higher educational qualifications than appropriate to such jobs simply results in job dissatisfaction and high turnover.

It is significant to note, further, that skilled tradesmen and craftsmen, a group which frequently exhibits concern over the effects of automation, are shown not only to share generously in growth in employment requirements and in new employment opportunities, but also to represent a greater share of the total work force in 1970 than at present.

At the university level, many companies are seeking potential managers and tend to devote more attention to qualities such as general ability, leadership, and attitude, rather than to specific training obtained. Below the university level more emphasis seems to be on specific skills which can be applied productively almost immediately. A general requirement was expressed, however, for a good grounding in mathematics and the ability to communicate effectively. Together with specific skills, companies are anxious that new employees have basic education which will permit training and retraining to meet continuing job requirements. Some companies view present employees who lack sufficient basic education to permit retraining as a deeper problem than the current shortages of well-trained, highly skilled manpower.

Most of the companies had not made use of government-sponsored programmes in the technical and vocational fields. Some of the companies reported, too, a very disappointing response to opportunities being offered employees for retraining even in the face of pending unemployment.

V – STATE OF MANPOWER PLANNING

As pointed out earlier, participants were chosen to include as far as possible companies which were already engaged to at least some extent in manpower planning. Nevertheless for several of the companies surveyed, the particular type of comprehensive manpower planning requested represented a new experience. A number of them had quite extensive succession provisions outlined at middle and senior management levels, with less attention having been directed to areas such as Technical, Professional, and Skilled employees. Not many of the companies had an accurate up-to-date inventory of the numbers and qualifications of present employees.

Most of the companies we surveyed have been using forward manpower information largely for the construction of financial budgets and for determining current recruiting requirements of new employees. The former application is concerned, of course, with costs rather than qualifications and neither purpose requires more than quite short-term planning.

Relatively limited action seems to have been taken to incorporate manpower as an integral component of broad corporate planning. Practically all of the companies in the group have well-defined medium- or long-range plans and procedures for capital investment, yet not much importance appears to have been assigned to the need for an adequate supply of properly trained manpower to implement the capital plans successfully. One of the companies surveyed estimated that over the past five years capital expenditures of some $30 millions had been withheld, representing almost as much as actually spent, because they did not command the manpower resources required to make reasonably sure that the proposed expansion could proceed on a sound and sustainable basis.

Conversely, another company expressed the thought that the present manpower problem is often not one of real shortages but rather of inefficient use of existing manpower resources. It was suggested by the latter that if current personnel were all employed efficiently a surplus of competent manpower might result. This view is supported by examples of other companies that knowingly over-hired in order to have a surplus pool of employees available to meet potential needs as they might develop.

A wide variety of company training programmes was encountered among the companies surveyed, ranging from in-company business administration courses for management trainees to complete apprenticeship training for skilled tradesmen. Some companies sponsored extensive off-premise courses, while others had no formal programme for those wishing to update or upgrade their skills. Still others complained that school facilities were not utilized sufficiently to meet retraining needs, while some acknowledged that they were not fully aware of the types of education and training being offered by their local school systems.

A number of the companies reported very favourable experience with "sandwich" courses of the type now being offered at the university level, and expressed the hope that this practice would be more widely adopted.

Generally, the companies covered recognize that their manpower planning is at an early stage of development but they also recognize the benefits to be gained from effective forward planning of manpower requirements, and welcomed the opportunity to review and improve their procedures. Their co-operation with us was indeed excellent and involved a very considerable amount of time and and thought on the part of many people in the various organizations.

VI–PROCEDURES EMPLOYED BY COMPANIES FOR THE SURVEY

The method used for preparation of the 1965 inventories of employees depended largely on the form and location of personnel records in the individual companies. In the case of multi-plant or multi-office operations, when records were maintained centrally, perhaps on computer equipment, the preparation of the inventory would be handled centrally, supplemented where necessary by information required for our survey. Conversely, if personnel records were decentralized, the current inventory was usually prepared in the branch offices. Possibly indicative of the minor role manpower planning has played to date, most companies did not have readily accessible information on the educational and training backgrounds of their work force and had to obtain it from each individual employee for the purpose of the survey. A number of the companies, including some of those employing close to 20,000 persons, did not have their personnel records computerized but they did not seem to experience great difficulty in assembling the inventory "by hand".

Two basically different approaches were adopted to develop the forward manpower data. One group of companies made the projection centrally, usually through a personnel official consulting with other senior officials. These companies believed that this approach would yield a better-balanced result and that divisional or departmental biases and controversy would be avoided.

The other group of companies was of the opinion that it was a useful experience for each division to prepare its own projection of future requirements. In the only case where two companies were chosen from the same industry, one used the central approach, while the other followed the decentralized procedure. It is interesting to note that their projections of future requirements follow a very similar pattern. The significant common denominator employed by both these companies was a framework of clearly defined corporate plans and objectives.

With notable exceptions, few of the company officials interviewed appeared to have given intensive thought to the suitability of the education and training being offered to either young people preparing for their initial employment, or for the upgrading and updating of present employees. They virtually all agreed, however, on the importance of fuller exchange of information between educators and employers but specific ideas for bridging this communications gap were generally lacking.

VII – PROCEDURES FOR MANPOWER PLANNING

It is not suggested that there is only one set of procedures for effective planning in this area or that any one set of procedures will be equally applicable to all companies. The following is offered to indicate one approach that may be taken to manpower planning. It will be apparent that, rather than in sequence as set out, some of these steps will be carried out simultaneously, e.g. assessing the environment, making corporate plans, and taking inventory of current manpower resources.

1. *Establishment of Corporate Goals, Objectives and Medium- to Long-Range Plans.* – Since manpower requirements are governed by the type and level of company operations, it is essential that fully effective forward manpower planning be based first upon clearly formulated company goals and objectives. It is necessary then to develop broad corporate plans resulting from an appraisal of the general economic outlook, of the total market for the product(s) or services which the company will be selling, and of its share of this market.

2. *Structure of Organization and Forecast of Manpower Requirements.* – The volume and type of business projected will provide a basis for the determination of capital expenditures required for new facilities, for devising an appropriate organizational structure and from it the specific requirements of manpower to successfully implement the company plans. Anticipated major technological innovations, changes in methods of production and probable productivity improvements must, of course, be taken into consideration in estimating specific manpower needs.

3. *Job Specifications.* – Basic specifications should be written for each position and function in the organization. Few of the companies studied included this rather onerous step in any of their manpower planning activities, possibly because of the need during recent manpower shortages to compromise ideal requirements, and also because many positions are frequently occupied by persons over-qualified for the actual requirement but gaining experience for promotion to positions requiring their full qualifications. A number of the companies found, however, that positions were frequently occupied on a permanent basis by persons who were under-employed in that they possessed more qualifications than the job required. As companies become more sophisticated in their manpower planning procedures they are taking job specifications into account as an integral step.

4. *Review of Current Manpower Inventory.* – The stock of present personnel can now be appraised in the light of requirements as pointed up in the organizational chart and by the job specifications. The preparation of an inventory of the existing work force is quite clearly a vital step from which to plan and provide for future requirements of manpower. In addition to revealing the availability (or lack) of skills and qualifications needed for carrying out forward plans, it should also provide valuable information as to the qualifications,

suitability and utilization of the present staff in the current operation of the company. It will also reveal factors such as seniority to be taken into account in the planning of manpower requirements for the future. As has been pointed out, a number of the companies surveyed discovered, when an inventory of current employees was taken, that personnel was frequently under-employed on their regular assignments. It was suggested further that many of the present-day manpower shortages are as much a result of poor utilization of resources as a real scarcity of qualified people. Because of the importance of this step in its own right, it could well be undertaken as a first move in manpower planning.

5. *Planning to Fill Requirements.* – A review of the current inventory, together with the forecast of manpower required, is likely to point up the desirability of transferring some employees to other functions and should also identify the need for training, retraining, upgrading and developing existing staff. After the potential of present employees has been evaluated, requirements will be indicated for the numbers and qualifications of new employees to be recruited.

Because of the broad scope and basic company purposes which manpower planning involves, it is most important that this function have the full and active support of the chief executive and the senior officials of the organization. Support of employees and organizations representing them can also make an important contribution. It must be emphasized too, that effective manpower planning has to be a continuing process, making adjustements for changed external conditions, changed company plans, and changed performance and qualifications on the part of individuals. The difficulty of accurately projecting most future developments, including manpower requirements, is fully recognized. However, by updating anticipated requirements regularly, the need for a high degree of initial accuracy is lessened; and more importantly, a good approximation of forward requirements is substantially more valuable than a total lack of any estimate.

Moreover, it is virtually certain that greatly increased numbers of students will be educated in coming years, and it is in the interest of employers to project their job requirements and attempt to have the education and training suited to their needs. More and more companies are currently reporting that a lack of suitably trained manpower is hampering their operations and plans. Consequently, while it is clearly important that corporate plans be established before undertaking manpower planning, it is also becoming increasingly evident that it can be futile to formulate corporate plans without including the essential manpower component.

VIII – PROBLEMS AND PITFALLS OF MANPOWER PLANNING

One of the main pitfalls to be avoided is to attempt to do effective manpower planning without first having a complete inventory of present employees, and then without having well-defined broader corporate goals and plans into which to fit manpower requirements. It follows, of course, that the person engaged in manpower planning must be thoroughly acquainted with the corporate plans; some evidence was encountered during the study that this vital requirement tended to be overlooked. It follows, too, as pointed out earlier, that successful manpower planning requires the commitment and full support of top management.

Another pitfall lies in the area of seeking a factor, such as sales or capital investment with which manpower can be correlated simply but dependably. More experienced planners caution against simply applying mechanical relationships, recommending that well-informed opinion be added as well, and suggesting that forecasting of manpower requirements is to a large extent a judgment exercise. Thus manpower planners must recognize that this is an area of imprecision where approximate estimates must be accepted.

A further precaution must be observed when undertaking to project the manpower requirements of new types of operation being introduced to the corporation. Yardsticks and guides which may have been found to be applicable to present operations may not fit new departures equally well.

Most companies consider the biggest problems confronted in attempting to project future manpower requirements to be those of forecasting company sales or share of market, and predicting the influence of technological change. The latter may on the one hand cause certain jobs to disappear as in the case of some forms of mechanization and automation. On the other hand, the rapidly developing use of the computer has created large numbers of new jobs in roles such as systems designing and programming. The influence of technological change is understandably difficult to estimate in the long term but is considered to be more reasonably predictable in the five-year period involved in this study.

Manpower planning does, of course, involve expense and may appear especially costly if it results in substantial development programmes to retrain or upgrade employees. One senior company executive interviewed maintains, however, that no function or activity is more important, and that with comparable equipment, materials and information being generally available, the essential difference between competing companies in today's markets is the relative competence and efficient utilization of their work forces.

Another senior company official commenting on the difficulties of manpower planning observed that capital investment planning has progressed to its present highly developed, sophisticated status in a relatively short period of time, and he sees no reason why manpower planning procedures cannot be similarly developed.

Except for those in special circumstances, the companies in our study which were undertaking comprehensive manpower planning for the first time appeared to be well pleased with the results, and confident that the information would be a valuable additional tool for management to employ in the successful operation of the companies.

IX – CONCLUSIONS AND RECOMMENDATIONS

This survey has demonstrated, we believe, that employers can make significant progress towards identifying and planning for their forward manpower requirements. While this particular survey was not designed or intended to produce statistically accurate quantitative results for the economy as a whole or even for sections of it, the same general procedures, if performed on an organized, statistically sound basis could also provide educational authorities with valuable information regarding the types of education and training required to meet future needs.

Within the oft-repeated limitations, our results do indicate, within the group of companies surveyed, a definite trend towards higher educational requirements and, concurrently, declining job opportunities for those with limited education. The growth in educational requirements increases broadly as higher levels of education are reached and is pronounced for university post-graduates, for technological institute graduates and for high school graduates with trade or vocational school training. As pointed out early in this report, actual availability of forward requirements depends upon appropriate supplies of skills and training being developed to meet growing needs.

The evidence submitted by the companies that participated in the survey indicates also the need for employee upgrading and retraining in all categories.

The survey reveals further that corporate manpower planning is still at an early stage of development in Canada. This is not unexpected since until relatively recently the supply of adequately trained personnel was not an acute problem. Moreover the concept or importance of systematic manpower planning has not been emphasized to any significant degree in the education and training of many businessmen.

Now, however, with shortages of certain types of personnel becoming increasingly serious, the need and advantages of manpower planning have become more clearly evident. This has been noted at various points earlier in this report and was emphasized in the Economic Council's *Second Annual Review*. Importantly, too, it is beginning to be recognized in the business community. The chief executive[1] of a prominent Canadian company in a speech not long ago stated "Despite the fact that manpower planning is a fundamental and necessary part of over-all corporate planning, relatively few organizations in Canada are deeply involved in comprehensive manpower and organization planning on a *continuous* basis at the sophisticated level associated with the planning of material 'things'." He went on to say "In general, manpower planning programs must be much accelerated to catch up to the planning programs that are evident in market analysis, product development, research, and in providing manufacturing facilities."

[1]D. G. Willmot, President of Anthes Imperial Limited, to the Annual Meeting of The Canadian Manufacturers Association, June 8, 1965.

It is recommended that manpower planning be undertaken by companies not now practising it and that where some planning is being done, opportunities be sought to improve and refine the procedures used. As outlined in some detail earlier in this report, the essential basic steps towards effective manpower planning include:

(a) Projection of future requirements as far forward as practicable in terms of both types and numbers of employees needed to attain company goals and objectives

(b) Preparation of an inventory of present personnel to identify existing resources

(c) Action where indicated, to match the qualifications of present employees more closely with job requirements, to initiate training programmes where upgrading is indicated and to recruit as necessary, new employees from outside sources.

While the foregoing derives from our study of manpower planning in the business community, similar principles apply to two other major users of manpower, the educational systems and governments. It is encouraging to note that at the federal level of government there appears to be growing awareness of the need for more manpower planning. A senior official[1] in Ottawa charged with the responsibility for improved administrative practices was quoted recently as saying "There are 240,000 employees in the government service, excluding the armed forces, and somewhere there is an expert on just about anything. The job is to find him and then make sure he has the chance to bring his knowledge to bear."

Before educational authorities can effectively plan forward requirements of teachers, continuing study and research is required to determine the type of education and educational system, and the teaching methods, that are likely to be best suited to future needs. With the present critical need to educate and upgrade large numbers of the present work force, educational authorities also have a serious responsibility to devise and offer appropriate courses of study for this purpose, and to make their facilities available to the maximum extent possible. If, as was found within our group of companies, government-sponsored programmes in the technical and vocational fields are not being used as widely as desirable, the cause should be determined and appropriate action instituted.

It was found in our contacts with educational authorities, as background for this study, that most of them were concerned with the types of education they should be offering to meet the requirements of employers – as well, of course, as with the fundamental educational needs of the individual. Thus we believe that educators will respond sympathetically to requirements which are placed before them. This leads to one of the most important conclusions arising out of this study.

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[1] D.R. Yeomans, Assistant Secretary of the Treasury Board, as quoted in the *Financial Post*, February 12, 1966.

Not only should employers devote more attention to projecting their forward manpower requirements in terms of types of education and training as well as numbers of employees, but a systematic method must be developed for the communication of such information to educational and training authorities. It will be recalled that this subject was one of the topics for discussion at the final meeting with each participating company, and that with few exceptions, company officials did not have specific suggestions for bridging this vital gap, although most of them stressed the need for dealing with it.

Hence it is our further recommendation that formal steps be taken by educators, employers and governments to arrange for a systematic exchange of information on basic trends in forward manpower requirements. The arrangement envisaged would serve a number of valuable purposes.

It would serve to co-ordinate a fuller exchange of information among the different educational and training systems on curricula design and content, on methods and procedures being used, problems being encountered and results being achieved. Furthermore, it would provide an excellent medium through which educational research could be planned so as to avoid duplication and at the same time, tackle problems in order of their over-all importance. In addition, with its emphasis on education and training, such action would also be highly relevant to the developing mobility programmes and placement and other activities of the Department of Manpower, both at the national and regional levels.

The proposed arrangement should also ensure that competent aptitude testing and career counselling are available to students who are preparing for entrance into the work force. This will permit a more effective matching of individual abilities and preferences to the job requirements which are revealed by manpower planning.

In conclusion it is clear that if we are to relate educational and training programmes more closely to emerging trends and changes in occupational requirements, then it is essential that longer range planning of manpower needs be carried out by all major sectors of the economy, by business firms, by labour organizations, by educational systems and by governments.

ECONOMIC COUNCIL OF CANADA

ANTICIPATED TRENDS IN MANPOWER REQUIREMENTS

1965 to 1970

OCCUPATIONAL GROUP	DISTRIBUTION ACCORDING TO EDUCATION OR TRAINING											
	CLASS "A" UNIVERSITY TRAINING								CLASS "B" POST HIGH SCHOOL TRAINING BUT NOT UNIVERSITY			
	Post Graduate				Graduate				Technological Institute		All Others	
	Technical & Scientific		All Others		Technical & Scientific		All Others					
	1965	1970	1965	1970	1965	1970	1965	1970	1965	1970	1965	1970
Professional												
Engineers												
Chemical												
Civil												
Electrical												
Mechanical												
Mining and Metallurgical												
Other												
Physical Scientists												
Chemists												
Geologists												
Physicists												
Other												
Other Professional Occupations												
Accountants												
Economists												
Mathematicians												
Other												
Administrative												
Graduates in Business Administration												
Commerce and Finance												
General Arts												
Other												
Other												
Technical												
Draughtsmen												
Engineering technicians												
Laboratory technicians												
Other												
Clerical												
Sales												
Technical												
Non-technical												
Skilled Tradesmen and Craftsmen												
Operatives												
Laborers												

SUMMARY FORM

Company name -

Year -

APPENDIX A

	DISTRIBUTION ACCORDING TO EDUCATION OR TRAINING													
	CLASS "C" HIGH SCHOOL TRAINING AND SKILLED WORKERS										CLASS "D" SEMI-SKILLED AND UNSKILLED WORKERS			
	High School		Technical High School		Vocational or Trade School				Non High School or Undetermined					
					High School		Non High School							
	1965	1970	1965	1970	1965	1970	1965	1970	1965	1970	1965	1970	1965	1970

APPENDIX B

CANADA

ECONOMIC COUNCIL OF CANADA — CONSEIL ÉCONOMIQUE DU CANADA

P.O. BOX 527, Ottawa
C.P.

May 17, 1965.

Dear Mr. President:

In its First Annual Review the Economic Council placed a good deal of emphasis on the need for further improvements in manpower policy in Canada. As you know, a mismatching of the supply of and the demand for labour, particularly at a time of high demand, results in shortages and bottlenecks which inevitably produce upward pressures on production costs. The Council is therefore deeply concerned with promoting measures which will help to ensure that industry has access to manpower which it will need.

At the present time, the development of an effective manpower policy in Canada is seriously impeded by a major gap in manpower information, particularly in the area of future manpower requirements. This makes it virtually impossible to plan basic educational and training programmes with any reasonable degree of practicality until some effort has been made to study trends in future manpower requirements. For example, in recent years the Federal Government, in co-operation with the provinces, has greatly expanded vocational education and training programmes. However, there is little, if any, reliable information on whether this large public investment is going into the kinds of training programmes which will equip trainees with the skills and education that employers will require in the years ahead. The effectiveness of such programmes will only be known when there is more information than exists at present with respect to future occupational trends.

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May 17, 1965.

As a beginning in this field, the Council is proposing to undertake an experimental Case Study based on a number of selected companies representing a broad cross-section of industry and commerce. The object of this exercise will be to determine what occupational trends are likely to develop over the next five years, primarily in terms of fairly broad occupational groups, and what these trends will mean in terms of future training and educational needs.

An important part of this exercise, moreover, will be to interest companies in the forward planning of their manpower requirements on a continuing basis as they now plan their capital investment programmes. In the final analysis only companies themselves are in a position to make educated estimates as to what their future manpower requirements will be.

Messrs. Russ Bell, Al Keys and Hume Wright, who are on the Council's staff, are associated with this project. One or more of them will call on you, or someone you may wish to designate, to explain in more detail the information we would like to have. They will also be interested in obtaining information on anticipated future capital expenditure trends and on any major technological changes which may have an important bearing on manpower requirements. Any information which they obtain will, of course, be treated with the strictest confidence. In no case will any information be identified as coming from a particular company. Since the Council wishes to have some useful results to publish in this year's Annual Review, it will be necessary for this phase of the work to be completed by the middle of August.

The Council is hopeful that from this project will eventually emerge a closer understanding between industry and its needs, and the manpower and educational authorities who have the responsibility of training people for future needs. Your co-operation in making this project possible will be greatly appreciated.

Yours sincerely,

John J. Deutsch
Chairman

APPENDIX C

EXPLANATORY MEMORANDUM

ECONOMIC COUNCIL OF CANADA

Case Study of Anticipated Trends in Manpower Requirements, 1965 to 1970

The scope and purpose of the case studies are outlined in the attached letter.

It is suggested that the information from each company should be provided along the lines set out in the enclosed forms. There are Annual Forms for the gathering of information from 1965 to 1970, and a Summary Form for a comparison of your 1965 manpower position with your anticipated requirements for 1970.

These forms have been designed to provide for the cross classification of all employees by education or training on the one hand and by occupational group on the other. The headings across the top of the forms cover the education or training of all employees ranging from those with post-graduate university degrees, to unskilled workers where no background training is required. The vertical headings on the left-hand side of the forms classify all employees according to occupational groupings. On the Summary Form, the vertical and horizontal classifications in combination should provide a focus on trends in manpower demands on the educational and training system during the period under study.

Your 1965 figures will, of course, show your present work force classified as to occupational group and the corresponding actual educational or training qualifications where the latter can be determined. Figures for future years should take into account not only anticipated changes in numbers expected to be employed in the various occupational groups but also any changes in the qualifications desired for each.

When forecasting future manpower requirements, please do so on the assumption that adequate supplies will be available in all categories to meet total needs. It is our understanding that, at present, some firms are inclined to modify the number of certain types of personnel sought to conform with expectations of available supplies.

Occupational Groups

Recognizing the problems involved in forecasting manpower requirements, the occupational classification is broken down into fairly broad groups only. It may be, however, that for some companies our breakdown is still too detailed. You may consider it feasible, for example, to project your requirements of engineers as a group only, believing it unnecessary to be concerned with the various specific types of engineers listed.

If such is the case, grouping into a single category is satisfactory for our purposes, not only as applied to engineers but also to the physical scientists, the administrative group and the technicians.

We are aware that the specific occupational designations we have used may not account for the entire work force in all of the companies in our survey and as a result, most occupational groups provide an "other" category. Unless you consider that occupations falling into one of these residual categories are especially important and should be identified, we suggest that all occupations, apart from those listed, be grouped under the "other" headings.

The Professional group should include all employees so qualified by education, regardless of function being performed. For example, employees with professional qualifications but performing administrative or sales duties should be listed under their professional heading. In case an individual holds degrees in two fields, or should to meet future requirements, he should be listed under both. As an example in this connection, if a manager holds or should hold an engineering degree, and a degree (likely post-graduate) in business administration, he should be listed both as an engineer and as a graduate in business administration.

The Accountants group under the heading "Other Professional Occupations" is to include Chartered Accountants, Registered Industrial Accountants, Certified General Accountants and Certified Public Accountants.

The Skilled Tradesmen and Craftsmen group is to include such occupations as electricians, machinists, carpenters, etc., and will likely all fall in Class "C".

The Operatives group is to include production workers such as assemblers and operators of production or processing equipment. Applying

the general rule of thumb that workers whose occupations require two years or more of training are usually designated as "skilled", it is anticipated that most operatives will fall in Class "D" though some may belong in Class "C".

Education and Training

Only a couple of comments appear necessary with regard to the breakdown of education and training into the various levels shown across the top of the forms.

The "All Others" category under Class "B" will contain such training as leads to the accounting degrees CA, RIA, CGA and CPA. Under Class "C", the "Non High School or Undetermined" heading is designed to cover workers who have not completed high school education but have been trained on the job to skilled level. It is suggested also that this heading will cover those present workers whose educational backgrounds are unknown and very difficult to obtain but where it may be assumed that high school education was not completed. In areas such as these, it is future educational and training requirements which will be of most significance to our work.

It should be noted that the educational and training breakdown conforms to the present training system. If in projecting future requirements, any companies would like to have other types of training available than are currently being offered, comments to this effect would be most appropriate.

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For the purpose of this project we are assuming that during the forecast period the growth of the Canadian economy will not be adversely affected by international developments or a serious recession.

Messrs. B.A. Keys and H.H. Wright of the Council staff will be available as much as time permits during the course of this study to assist with the preparation of the material as outlined. Kindly contact one of them if points arise which you wish to discuss. The address of the Economic Council of Canada is P.O. Box 527, Ottawa, and the telephone number, 992-4288.

We recognize that this will be a sizeable assignment for companies with large numbers of employees. We are anxious, however, to include as much information as possible on the results of the case studies in the Economic Council's Annual Review for this year. To do so will require that the case studies be essentially completed by mid-August and we will be grateful for your assistance towards meeting this objective.

APPENDIX D

MEMORANDUM

CLASSIFICATION

TO
A

YOUR FILE No.
Votre dossier

OUR FILE No.
Notre dossier

FROM
De Economic Council of Canada

DATE June 18th, 1965

FOLD

SUBJECT
Sujet Supplementary Notes re Manpower Case Study

During recent discussions with companies participating in our Case Study, various points have arisen on which we believe it would be helpful to make further comment.

First, we would mention that the use of the Annual Form is optional. It was prepared and included in the binder at the request of some companies who prefer to project their 1970 manpower requirements on a year-to-year basis and, for this purpose, wish to prepare an anticipated inventory for each year to 1970. For the purpose of indentifying shifts and trends over the period we will, however, make use of the 1965 and projected 1970 inventories only.

A second point concerns the content of the 1970 inventory. In our original material we have requested that you indicate not only the dimensions of the 1970 work force but also the educational and training qualifications which you would like it to have. In so doing it is important to recognize that many of your present personnel will still be on your staff in 1970 even though they may lack the ideal education and/or training you seek in new employees being hired. Consequently, progress over the next five-year period towards the ideal eventual qualifications for all employees will be made mainly through additions to your present work force. Nevertheless, any significant trends in the educational or training qualifications being sought should be clearly evident for our purposes.

We would like to emphasize that the primary object of our study is to obtain information on the demands on public educational and training systems rather than on training programmes conducted within companies. The in-company training may, however, show up with respect to skilled workers in Class "C". The form is designed to show whether such persons acquired their skill as an electrician or machinist, for example, in a vocational or trade school or whether they entered the company directly, with or without high school education, and subsequently received their skilled training on the job.

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CGSB—6GP22a PP&S Cat. No. 3591

Classification under the various educational and training institutions is to apply only to graduates of such institutions. If there are instances where a significant number of employees have pursued but not reached graduate level, they may be included in Class "B" under "All Others" and should be identified in an accompanying note.

It is recognized that the original form did not provide for refresher or re-training type programmes outside the company. Public programmes of this type are, however, being offered and may assume increasing importance in the future. We suggest that where such training is desired, companies use the spare column at the right hand side of the form for this purpose, adding an appropriate descriptive heading. For our purposes it is important that we have a note from you indicating the type of training involved such as courses for senior management, middle management, foremen, specialized skills, etc.

The question has arisen about the classification of an employee who carries the status of an engineer, for example, but who does not hold an engineering degree. We suggest that such a person should be included with the engineers in the occupational group but shown under his appropriate educational heading in the horizontal classification.

Inquiries have been received, too, regarding the classification of foremen. We suggest that in cases where they have risen through the ranks of workers now under their supervision, foremen should be classified with such workers. In situations, however, where persons may be hired and trained directly for roles as foremen, a separate occupational group "Foremen" can be added at the bottom of the form.

It is anticipated that, in general, companies may be confronted with several possibilities when classifying some employees. In these cases we would be grateful if we could be advised in due course of the choice adopted as this information will be of considerable importance to us in interpreting and compiling data received from various sources.

If other points of general interest arise we will communicate with you accordingly. In the meantime we would ask you to kindly contact us at any time you feel we can be of assistance.

APPENDIX E

CANADA

ECONOMIC COUNCIL OF CANADA – CONSEIL ÉCONOMIQUE DU CANADA

P. O. BOX 527, Ottawa
C. P.

July 8th, 1965.

Dear Mr. President:

In his letter of May 17th, Dr. Deutsch outlined to you the Case Study of Anticipated Trends in Manpower Requirements being undertaken by this Council.

Seventeen selected companies, including yours, are now participating and we are consulting with them as the project proceeds. A list of those willing to be identified is enclosed.

Looking ahead, we would like to have the benefit of some further general discussion with each participant to review its study of manpower requirements, the approach and methods used, any problems involved, and the interpretation of the results. Also, we would appreciate receiving views and information on some aspects of corporate forward planning generally. In this connection, as Dr. Deutsch explained in his letter of May 17th, we are interested in obtaining information on anticipated future capital expenditure trends and on any major technological changes which may have an important bearing on manpower requirements. I would like particularly to have your current capital expenditure forecast brought up to date from the projection I received from you last year.

With the idea of facilitating a useful discussion of such matters, we have prepared the enclosed outline. We thought that by circulating it in advance, the best possible use could be made of the time which we hope can be set aside for the proposed discussion.

We much appreciate the co-operation we have received from you and will be in touch with your company in due course about a date for a meeting. In the meantime we want, of course, to be of whatever assistance we can as the project moves forwards.

Yours sincerely,

Economic Council of Canada

P.S. As mentioned in Dr. Deutsch's letter, any information we receive will not be identified as coming from a particular company.

APPENDIX F

Economic Council of Canada

Anticipated Trends in Manpower Requirements

SUGGESTED DISCUSSION OUTLINE

This outline is intended to serve as a flexible discussion guide. Your views on any points not covered will be most welcome; on the other hand you may wish to deal only briefly with some of the questions raised. Our aim, of course, is to produce as much benefit as possible from your participation in this study.

- Review and interpretation of your results.
- Procedure used in arriving at 1965 position.
- Procedure and assumptions used in arriving at 1970 position.
- Main uses of manpower information within company, e.g.
    a) Assignment of existing staff.
    b) Recruiting.
    c) Training and re-training.
    d) Budgeting.
- Discussion of general corporate planning including relationship to manpower planning and the handling of this study.
- Anticipated effects on manpower of
    a) Major technological changes.
    b) Capital Expenditures.
- General views on manpower problems and policies including
    a) The supply of suitably trained employees from the public educational and training system.
    b) The role of in-company training programmes.
    c) Public facilities for the updating and re-training of existing employees including managers and technical and professional staff.
    d) The role of the National Employment Service.
    e) Methods of achieving closer liaison between industry and the educational and training system.
- Comments re the procedure adopted for this study.

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Manpower Planning in Industry

by B. A. Keys and H. H. Wright

Economic Council of Canada