

1960

Board of directors in the New England electronics industry

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BOSTON UNIVERSITY
COLLEGE OF BUSINESS ADMINISTRATION

THESIS
BOARDS OF DIRECTORS IN THE
NEW ENGLAND ELECTRONICS INDUSTRY

by

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the requirements for the degree of
MASTER OF BUSINESS ADMINISTRATION

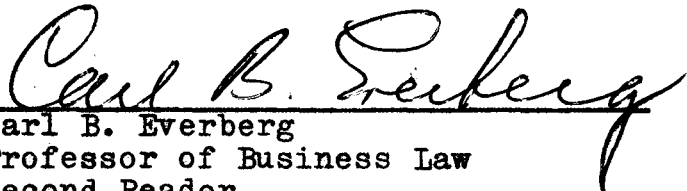
1960

This thesis was prepared under my supervision
and approval is hereby indicated.



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This thesis was read by me and is approved.



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I. INTRODUCTION

1. Purpose and Scope

Directors, by law, are the key individuals in any corporation. This study analyzes the boards of directors in the New England Electronics Industry. The scope of the thesis is limited to the general composition of the boards and the broad functions and responsibilities generally associated with directors.

The purpose of this thesis is to establish a common denominator for this particular director group, and thereby aid the manager - or the student of management - to evaluate the board of a particular company. The yardsticks developed are generalizations, which after modification to the particular needs and peculiar circumstances of a company, may be used to study specific applications. The reader is cautioned that the findings are limited to the New England Electronics Industry, and in particular, to those companies within the financial group indicated. There are vast differences in the individual directors and the roles they perform which, when put together in a board, can produce practically limitless combinations. The pattern is never absolutely the same, and therefore, a penetrating analysis has to be made of the circumstances in each particular case. This study will have served its purpose if it causes a reader,

who is associated with a board, to reflect further on his own board's activities.

The general purpose of a director is understood by most people, but few, outside of leaders and students of management, comprehend the importance of board activity in relation to their own environment. The board, as the ultimate management in the corporation, is responsible for the overall control and direction of the company. The New England Electronic Industry boards, as a composite group, control the companies which will probably have the greatest influence on the New England Economy in the foreseeable future.

New England electronic production will exceed \$800 million in 1960 - or approximately 15% of the expected total commercial and military market. This figure obviously provides the payroll for many, many jobs which otherwise might not exist. The timely, phenomenal, growth of the New England companies - 245% in the ten years from 1947 to 1957, and an additional 173% expected from 1957 through 1960 - has more or less coincided with decreases in employment in other industries. (13) As other industries suffer further declines in employment, it becomes clearly evident that the future of the New England economy of today rests in large measure upon the ability of the Electronics Industry to continue its expansion.

The requirement of more effective direction by the subject boards becomes increasingly more important as competition increases, as it has of late. West Coast firms and foreign imports from Japan, West Germany, The Netherlands, and England are bidding for a larger share of the market - companies in the California alone are expected to ship \$1,600 million in 1960, or two times the total New England production for the same period. ⁽¹³⁾

2. Research Sources

a. Survey of the New England Electronics Industry

The thesis interprets the responses of 80 companies to a mail survey performed by the writer in February, 1960. (See Appendix B for a copy of the questionnaire). These companies appear to represent a valid cross section of the industry since, on a percent basis, the number replying by major product classification are approximately consistent with the percent of companies in the same classifications for the total industry. Table I below, indicates, for example, that electronic component manufacturers comprise 39% of the industry, and that 33% of the 80 replies were from the same major product classification.

(Table I follows)

Table I
Number of Companies Replying
by Major Product Classification
Survey - Board of Directors
in Electronics Industry in New England,

F. J. O'Driscoll, Graduate School, Boston University, Feb. 1960

	<u>Survey</u>		<u>Total N.E.</u>
	<u>Number</u>	<u>%</u>	<u>%</u>
Manufacturing Equipment	2	3	4
Test Equipment	7	9	5
Sub-Components & Supplies	28	35	40
Components	27	33	39
Sub-Equipment	11	14	9
Equipment	5	6	3
	<hr/>	<hr/>	<hr/>
TOTAL	80	100%	100%

Classification Source - Who's Who in Electronics, 1959

A total of 20% of the 80 companies are listed for public investment. Two are listed on the New York Stock Exchange; four are listed in the American Stock Exchange; and ten are sold in the Over-the-Counter market. (3)

The survey represents various size companies as measured by net worth, i.e. financial strength. The following analysis (Table II) indicates the number of companies in each category of estimated financial strength based on credit rating by Dun and Bradstreet.

Table II
Number of Companies Replying
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England,

F. J. O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Net Worth</u>	<u>Replies</u>	<u>%</u>
Over \$1,000,000	23	29
\$500,000 - \$1,000,000	12	15
\$100,000 - \$500,000	11	14
Under \$100,000	13	16
No Rating Available	<u>21</u>	<u>26</u>
TOTAL	80	100%

Classification Source - Dun & Bradstreet Credit Reference File, December, 1959.

There were no ratings available for 21 companies, but no opinions should be drawn from this fact alone. Dun & Bradstreet does not rate all companies, and on occasion rates companies based on parent company strength. For the purpose of this survey, all such companies have been placed into the "no rating available" section. For example, Power Sources, Inc. of Burlington, Massachusetts is rated as having a financial net worth of over one million dollars. This rating is not based on its own strength, but rather that of its parent company Technical Operations, Inc. of Burlington, Massachusetts. Therefore, Power Sources, Inc. has

been placed in the "no rating available" section.

The following is only a partial list of the companies that replied to the questionnaire:

<u>Company</u>	<u>Product</u>
A. A. Metal Products	Chassis
Ambroid Co.	Adhesives
Analex Corp.	Tabulators
C & K Components	Delay Lines
C G S Labs. Inc.	Computers
Electro-Flex	Heat Elements
Eugene Engineering	Sheet Metal
Geartronics Corp.	Gear Systems
General Instrument	Electronic Assembly
Heli-Coil Corp.	Coils
Hi-Voltage Engineering	Accelerators
Jarrell-Ash, Co.	Instrumentation
K.V. Transformer	Transformers
Microwave Associates, Inc.	Microwave Devices
Pickard & Burns, Inc.	Power Devices
Power Sources, Inc.	Power Converters
Republic Foil	Capacitor Foils
H.H. Scott, Inc.	Hi-Fi Equipment
Technical Operations	Power Supplies
Technology Instrument	Potentiometers
Transonics	Transducers

<u>Company</u>	<u>Product</u>
Vari-L	Inductors
Waterbury Pressed Metal	Electronic Hardware
Wirecraft Products, Inc.	Cable-Wire

B. Other Sources

This writer has relied principally upon two previous surveys of all corporations in the United States to provide comparative data for the New England Electronics Industry. One is a joint survey, made in 1959, of 925 companies, representing large and small enterprises, by The National Industrial Conference Board and The American Society of Corporate Secretaries, Inc.: the other, also made in 1959, is a survey of 500 large and small corporations made by the American Institute of Management.

The writer has no knowledge of any previous study into the specific subject of the boards of directors in the New England Electronics Industry. The highly competitive nature of the business has made much of the most desirable information unavailable. Information on those companies listed for public investment is readily available from the prospecti required by the Securities and Exchange Commission, but many of the companies not listed for public investment consider this data to be of a proprietary nature.

3. Summary of the Study

The following summary of the results of this

analysis will indicate the emphasis to be found in the main body of the text. Here, in condensed form, is an image of a board member, board control, and board activity to be found in the New England Electronics Industry. There are substantial variances at most points between those companies rated over \$1,000,000 and those rated under this amount, therefore, each area of interest is separated into three categories: 1.) average of all companies, 2.) over \$1,000,000, and 3.) under \$1,000,000.

a. Board Members

1. Average all Companies

There are six directors on each company board, or five less than the national average for all corporations. The "inside" management group had three members on the board, the other three were "outside" directors.

The composition of the two groups is:

"Inside"

Administration and Sales	48%
Production, Engineering, and R&D	35
Finance and Accounting	17
Total "Inside"	<u>100%</u>

"Outside"

Businessmen in the same, related, or other industries	45%
Professional (Lawyers, Bankers, etc.)	43
Others	12
Total "Outside"	<u>100%</u>

The average director was 50 years old, approximately ten years younger than his average counterpart on a national, all industry, basis. Only 14% of the "inside" and 59% of

the "outside" directors receive additional compensation for director activities.

2. Average Company Rated Over \$1,000,000

There are eight directors on each board, three "inside" and five "outside" members.

The composition of the two groups is:

"Inside"

Administration and Sales	45%
Production, Engineering, and R&D	35
Finance and Accounting	20
Total "Inside"	100%

"Outside"

Businessmen in the same, related, or other industries	48%
Professional (Lawyers, Bankers, Etc.)	49
Others	3
Total "Outside"	100%

The average director in this group is 51 years old. More than 26% of the "inside" and 79% of the "outside" directors receive additional compensation for director activity.

3. Average Company Rated Under \$1,000,000.

There are five directors on each board, three "inside" and two "outside" members. This distribution coincides exactly with that recommended for the small corporation by the American Institute of Management. (1)

The composition of the two groups is:

"Inside"

Administration and Sales	44%
Production, Engineering, and R & D	38
Finance and Accounting	18
Total "Inside"	100%

"Outside"

Businessmen in the same, related, or other industries	41%
Professional (Lawyers, Bankers, etc.)	41
Others	18
Total "Outside"	<u>100%</u>

Notice that the "others" category increases substantially in the smaller companies. This is caused by the fact that many times relatives are put on boards to either maintain control or satisfy statutory requirements. The average director in this group is 47 years old. More than 10% of the "inside" and 79% of "outside" directors receive additional compensation for director activity.

B. Board Control

A total of 56% of all the boards surveyed are controlled by the "inside" directors. The boards of the companies rated over \$1,000,000 are only 39% controlled by "inside" directors, this is low considering the youth of the industry and the fact that the national average for all corporations is 43%.⁽⁹⁾ As might be expected, "inside" directors control more than 75% of the boards of companies rated under \$1,000,000.

C. Board Activity

The use of committees by the subject boards does not correlate with information available from national surveys of all corporations.

1. Executive Committee - use by:

National average, all corporations ⁽⁹⁾	75%
All electronic companies surveyed	31%
Electronic companies rated over \$1,000M	52%
Electronic companies rated under \$1,000M	22%

2. <u>Compensation Committee - use by:</u>	
National average, all corporations ⁽⁹⁾	25%
All electronic companies surveyed	15%
Electronic companies rated over \$1,000,000	46%
Electronic companies rated under \$1,000,000	-0-

There were other committees used, but these defy national comparison.

Nationally, 38% of all corporations hold board meetings at least once per month;⁽⁹⁾ the same overall average, 38%, is true of all the electronic companies surveyed. However, a relatively large range exists between the larger companies, of which 52% hold meetings at least once per month, and the smaller companies, of which only 30% have meetings in the same frequency.

II. COMPOSITION OF THE BOARD

A study of the composition of a board reveals the balance of that board. From the balance of a board and the type of individuals who make up this balance, the analyst can reveal what may be expected of that board. It tells nothing of the actual service the board gives, for this depends upon how the board is used in practice.

The first task is to set the desired function of the board, and then select the individuals to fulfill this function.

The chief executive who wants a constructive board should - (1)

- 1.) Think through what he wants from a board and put that into a written statement of responsibilities.
- 2.) Develop scientific criteria against which the board can judge the company's health.
- 3.) Subdivide the board into revolving committees, each to be thoroughly familiar with a specific segment of the business.
- 4.) Prepare agenda and background information well in advance of every meeting.
- 5.) Decide exactly what kind of man he wants on the board, and then recruit him just as

he would a top executive.

- 6.) Compensate directors just as he would executives - in relation to qualifications and performance.

1. Size of Board

Size of the board is the first aspect of its composition that can be studied. There is no ideal size of a board, it depends upon the company's circumstances of control and the functions desired of the board. All the New England states require a minimum of three directors, with the exception of Rhode Island which allows the incorporators to set the number in the charter, articles of association, or the bylaws. (See Appendix A, Legal Supplement.)

The working boards of the 500 large and small companies in the American Institute of Management Survey averaged fourteen directors. Some outstanding manufacturers had fewer than ten men on their boards.⁽¹⁾ A recent survey of 925 manufacturing companies conducted by the National Industrial Conference Board revealed an average of eleven directors per board. (9)

The following table is an analysis of the 80 companies in the survey of the Electronics Industry in New England.

TABLE III
AVERAGE NUMBER OF DIRECTORS PER COMPANY
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England,
F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>NET WORTH</u>	<u>REPLIES</u>	<u>NUMBER OF DIRECTORS</u>	<u>AVG. NO. PER COMPANY</u>
Over \$1,000,000	23	188	8
\$500,000 - \$1,000,000	12	66	6
\$100,000 - \$500,000	11	55	5
Under \$100,000	13	49	4
No Rating Available	<u>21</u>	<u>124</u>	<u>6</u>
TOTAL	80	482	6

Source: Survey Questionnaire

The results indicate that the average company in the survey with a net worth of over one million dollars has eight directors, or three less than the national average of eleven. This most probably results from the fact that the national average includes the banking and trust field, among others, which often have more than twenty members on the board.⁽¹⁾ Boards in this electronics survey ranged from five to thirteen directors, with a definite mode of approximately eight members. Microwave Associates, Inc. and Technical Operations, Incorporated were at the upper limit with thirteen board members, while Transonics, Inc. had only five. It is interesting to note that at a recent

meeting of the stockholders of Transonics, Inc. a motion was made from the floor to increase the size of the board; and in particular to add outside people.

The smaller companies averaged approximately five directors, which is the recommended figure of the American Institute of Management for small business.⁽¹⁾ It is difficult for a board smaller than five to fulfill the functions of a working directorate.

The proper size of an effective board can be stated as that large enough to fulfill its function and provide a variety of viewpoint, yet small enough to keep interest alive and allow a steady exchange of ideas. Boards occasionally grow too large because of mergers; others, because the board is used as the resting ground for those executives who have been with the company many years; and others because local prominent individuals are added merely for the prestige of their name, and not for what the individual can contribute to the board. It usually takes a long period of time and much soul searching to reduce the board to a more workable size.⁽⁸⁾ The usual method of reducing the board's size is through mortality and retirement; see the section on age of directors which follows.

2. Age of Board

Since most individuals are just that - individuals, there is no ideal age for a director, or average age for a board of directors. The effectiveness of board members depends upon the individual's business sense, vigor, and application to task. The man of fifty can lack the mental vigor of another man sixty-five, or even seventy years old. However, a board of directors averaging seventy years old is more likely to be less sharp and too conservative compared to a board with an average age of fifty-five to sixty years old. (1)

Although too young a board may lack some maturity and administrative experience, the American Institute of Management states that the real danger still lies in the board which may be too old, because the younger board can gain the maturity and administrative experience, whereas, the older board would find it most difficult, if not impossible, to change its ways.

The "too old" board tends to shut the young blood out because it fears the disturbance of the younger individuals. Even where younger men are allowed on the board, the two groups may find great difficulty in exchanging ideas. This is particularly true where an aging founder is still at the helm and is dogmatic to the point of dictatorship. These individuals generally succeed in isolating the company from current economic reality.

The following tables analyze the total number of directors listed in the survey questionnaire, both by total number and percentage of age group.

TABLE IV

Total Number of Directors by Age Group

by Financial Net Worth Classification

Survey - Board of Directors

in Electronics in New England,

F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>NET WORTH</u>	<u>REPLIES</u>	<u>TOTAL NO. DIRECTORS</u>	<u>UNDER 40 Yrs</u>	<u>40 to 60 Yrs</u>	<u>OVER 60 Yrs</u>
Over \$1,000,000	23	188	16	142	30
\$500,000-\$1,000,000	12	66	17	41	8
\$100,000-\$500,000	11	55	13	36	6
Under \$100,000	11	41	18	18	5
No Rating Available	<u>21</u>	<u>124</u>	<u>26</u>	<u>89</u>	<u>9</u>
TOTAL	78	474	90	326	58

Source: Survey Questionnaire ("No Replies" Eliminated)

TABLE VPercentage Number of Directors by Age Groupby Financial Net Worth ClassificationSurvey - Board of Directorsin Electronics in New England,F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>NET WORTH</u>	<u>REPLIES</u>	<u>TOTAL NO. DIRECTORS</u>	<u>UNDER 40 Yrs</u>	<u>40 to 60 Yrs</u>	<u>OVER 60 Yrs</u>
Over \$1,000,000	23	188	8%	76%	16%
\$500,000-\$1,000,000	12	66	26	62	12
\$100,000 - \$500,000	11	55	24	66	10
Under \$100,000	11	41	44	44	12
No Rating Available	<u>21</u>	<u>124</u>	<u>21</u>	<u>72</u>	<u>7</u>
OVERALL	78	474	19%	69%	12%

Source: Survey Questionnaire

Only an average of 8% of the board members of companies rated over one million dollars were under forty years of age, but Heli Coil Corp. had 45% and Microwave Associates, Inc. had 37% in this age group. Electro-Flex Heat, Inc., rated under \$100,000, had three members under forty and two members over sixty, an age gap of at least twenty years.

The results indicate that the average age of the 474 directors covered in the survey is approximately fifty years old. This is low when compared to an average of fifty-eight for 925 manufacturing companies in the United States.⁽⁹⁾ The fifty year old figure is still lower when

compared to the average age of sixty-two in a national survey of 500 companies by the American Institute of Management.⁽¹⁾ These surveys were both conducted in 1959.

It is interesting to note that as a percent in each category the percent of directors over sixty remains more or less constant, whereas, as the size of the company increases, the percent of younger men decreases. This is not because the companies with the greater size are old line companies - many of them are less than ten years old, but rather because as the company grows, the older directors are added because of mergers, public financing, and increased attractiveness for the mature director. The very young company usually can not command the services on its board of the prominent senior business man.

In young companies, particularly in a young industry like electronics, boards are usually composed of younger-than-average directors. This is because of the recent technology and the necessity of more recent education. Therefore, the average age of fifty is in line with the nature of the industry.

As the Electronics Industry matures, the average age will increase because the present directors are getting older and more outside, older directors will be added. The average age will increase each year until 1970 when it will probably be in line with the national average of fifty-eight to sixty years old.

3. "Inside" Directors

The 80 companies in the survey had a total of 244 "inside" directors, or as Table VI below shows, an average of 3 per company. However, this average contains fairly wide ranges, for example, eight out of ten Technology Instrument Corp. directors, and only one out of seven High Voltage Engineering Corp. directors, were listed as members of the "inside" group.

TABLE VI

Average Number of "Inside" Directors Per Company

by Financial Net Worth Classification

Survey - Board of Directors

in Electronics Industry in New England,

F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>NET WORTH</u>	<u>REPLIES</u>	<u>"INSIDE" DIRECTORS</u>	<u>AVG. NO. PER COMPANY</u>
Over \$1,000,000	23	80	3
\$500,000-\$1,000,000	12	37	3
\$100,000-\$500,000	11	33	3
Under \$100,000	13	37	3
No Rating Available	<u>21</u>	<u>57</u>	<u>3</u>
TOTAL	80	244	3

Source: Survey Questionnaire

The term "inside" director as used here applies to those individuals who are executives of the company and active in its day to day operations. The use of the term is proper in this survey because, although it may not include all the directors who owe their position on the board to the operating management, for example, lawyers who are the general counsel of the company rather than representing some specific group on the board; nevertheless, it does include all the individuals who derive the major portion of their livelihood as a member of the day to day management. Conversely, the term "inside" director as used here may include some operating individual who owes his position to some compromise with minority investor interests, etc., and who is completely loyal to that group in his board participation. Generally, these questions are too sensitive to obtain any response in a mail survey. The question of "inside" versus "outside" boards is considered in Section III of this thesis.

There is a further, although probably not important, possibility of misclassification as to the principal business background of the "inside" directors listed as administration; this is particularly true in the smaller companies. Generally, the president of the company has listed himself in the administration category, although this depends entirely upon the individual.

If, in fact, this is a new company headed up by an engineer who has done nothing but engineering in the past, he should be classified in Engineering and R & D. This is also true where the president has recently moved up and over from the job of Sales Manager, Plant Manager, Comptroller, or some other job where he has not been responsible for the overall control of the company. The possibility of misclassification is not really important because he is now responsible for the overall control of the company.

The business background of the "inside" directors as a class are: Administration 34%; Sales 14%; Production 11%; Engineering and R & D 24%; and Finance and Accounting 17%. Table VII distributes the "inside" directors numerically by size of company. Table VIII analyzes the same group by size of company as a percent of the total "inside" directors.

(Table VII Follows)

TABLE VII
Analysis of "Inside" Directors
by Principal Business Background
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England,

F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

	<u>OVER</u> <u>\$1000M</u>	<u>\$500M-</u> <u>\$1000M</u>	<u>\$100M-</u> <u>\$500M</u>	<u>UNDER</u> <u>\$100M</u>	<u>NO RATNG</u> <u>AVLBLE</u>	<u>OVERALL</u>
Administration	25	13	11	6	23	78
Sales	11	7	5	2	8	33
Production	10	3	4	4	4	25
Engr. & R & D	18	4	8	14	11	55
Fin. & Acct.	16	10	5	3	6	40
No Replies	<u>-</u>	<u>-</u>	<u>-</u>	<u>8</u>	<u>5</u>	<u>13</u>
TOTAL	80	37	33	37	57	244
TOTAL COMPANIES	23	12	11	13	21	80

Source: Survey Questionnaire

(Table VIII Follows)

TABLE VIII

Percentage Analysis of "Inside" Directors
by Principal Business Background
by Financial Net Worth Classification,
Survey - Board of Directors
in Electronics Industry in New England,

F.J. O'Driscoll, Graduate School, Boston University, Feb. 1960

	<u>OVER</u> <u>\$1000M</u>	<u>\$500M-</u> <u>\$1000M</u>	<u>\$100M-</u> <u>\$500M</u>	<u>UNDER</u> <u>\$100M</u>	<u>NO RATE</u> <u>AVAIL.</u>	<u>OVERALL</u>
Administration	31%	35%	33%	21%	44%	34%
Sales	14	19	15	7	15	14
Production	12	8	12	14	8	11
Engr. & R&D	23	11	24	49	21	24
Fin. & Acct.	<u>20</u>	<u>27</u>	<u>16</u>	<u>9</u>	<u>12</u>	<u>17</u>
TOTAL	100%	100%	100%	100%	100%	100%

Source: Survey Questionnaire

Note: "No Replies" eliminated in computation of percents.

a. Administration

Directors concerned primarily with the overall administration of the company constitute 34% of the total "inside" directors. This question in the survey was intended to include presidents, general managers, as well as staff aides to the presidents or general managers who fulfill the administrative role. Administrators lead the operating group and if their prior orientation in other areas is not predominant, they treat the various operating and staff sections with an objective eye.

That the administrator should be objective and not lean to a particular operating or staff capability does not mean that he was not chosen to be the leader because of his particular operating or staff capability. Perhaps the best illustration of this apparent inconsistency can be shown in a company as large as General Motors. Chronologically, when General Motors needed new capital, a money raiser, W. C. Durant, was elected president. In a period of recession when the company was on the verge of bankruptcy, a specialist at taking companies out of such financial chaos, Pierre du Pont, was chosen as president. As competition increased, the engineering and marketing specialist, A. P. Sloan, Jr., was made chief executive. Then the problem area turned to union and government relations, thus C. E. Wilson moved up to president. When the postwar boom for cars came to an end, the competition increased, and again a marketing expert, H. C. Curtice, came to the helm. Today, with prices and costs rising at all levels, together with the du Pont stock problem, a financial man, F. C. Donner, leads General Motors.⁽⁶⁾ No one would argue that a president of General Motors does not have to be an able administrator.

b. Sales

Salesmen accounted for 14% of the total operating people on the board. The salesman on the board can play a very important role in evaluating market trends and current research in terms of possible future markets. Also, through personal contact, he may have a wealth of knowledge on what is going on in other companies in non-sales activities.

The value of the salesman for board participation depends upon whether he is merely an order taker or a well-rounded marketing man who can aid the rest of the board in evaluating major advertising programs, customer concentration, the effect on sales of mergers and consolidations, and many other items of particular board interest.

Engineers with a sales background make up the vast majority of salesmen in the Electronics Industry. There are some rather interesting exceptions to this rule, for example, the president and a board member of Hi-Voltage Engineering, Dennis Robinson, who was a college professor in England, does much of the selling for that company. The reason becomes apparent when you realize that much of this company's sales are in accelerators which cost in the hundreds of thousands of dollars per unit, and which are sold to educational institutions for research work. Obviously with so large a unit cost, presidents and other officials of the institutions get involved in the purchasing of this equipment. This is where Mr. Robinson's background becomes

an asset, because he is acquainted with the academic community and understands their feelings. Part of the problem in selling any commodity is understanding to whom you are selling.

c. Production

The "inside" board group is 11% composed of production people. Less than one out of every three companies surveyed had a production man on its board. The reason is probably that, because of the technology problem involved in electronics, the engineering people on the board feel that they also represent the production activity. This can be a bad mistake, because many times the engineering group can make an acceptable prototype but when the larger, and usually more rapid delivery, production contract comes along the product runs into difficulty in production. The engineering group with rather makeshift experimental gear and very few scheduling problem can not always anticipate the task of making the same unit in quantity.

d. Engineering and R & D

Approximately two out of three companies had engineering and/or R & D individuals on the director operating team, or an overall 24% of the "inside" members. There was no continuity for the various size companies - companies with a net worth under \$100,000 had 49% while c companies having a net worth from \$500,000 to \$1,000,000 had only 11%. It is interesting that companies having a

financial strength over \$1,000,000 had 23% or approximately the average for the industry, which indicates a balance for this activity in the larger companies.

Perhaps the best way to illustrate the need of having engineering and R & D people on the board can be shown from information gathered from the company prospectus of Microwave Associates, Inc. and Technology Instrument Corporation. In 1957 Technology Instrument Corporation expended \$1,000,000 on research and development, or approximately 18% of sales. In 1958 Microwave Associates, Inc. expended \$400,000, or approximately 15% of sales. The direct responsibility for such large expenditures should be represented on the board.

One of the most difficult problems a board can face is that of evaluation of the research program. The very nature of research is intangible and its trend and output are evasive to measurement.

Today some of the "outside" directors who represent large stockholder interests are engineering oriented because of the evaluation and technology problems. For example, Colonel J. Z. Millar, Assistant Vice President, Development and Research, Western Union Telegraph Company and Frank L. Marx, Vice President in charge of Engineering American Broadcasting Company represent their respective companies as directors on the boards of Microwave Associates, Inc. and Technical Operations, Inc. Mr. Walkowicz, a

graduate in engineering from the Massachusetts Institute of Technology, is a representative director of Mr. Laurence Rockefeller on the Itek board.

e. Finance and Accounting

The "Inside" director group is made up, on the average, of 17% by finance and accounting people. The percent varies considerably with the size of the company. For example, there are only 9% on the boards of companies with a net worth under \$100,000; whereas, there are 20% in the companies worth over \$1,000,000. One out of every two companies in the survey had a finance person - generally the treasurer - on the board.

The area of fiscal policy is usually the most important contribution the finance and accounting person can make to a board. The interpretive and generally rather conservative attributes of the finance and accounting man can also do a lot to add balance to board decisions.

Erroneous decisions in the fiscal area can cause a company unnecessary grief in the near and long term. For example, Laboratory for Electronics, in an ill-advised move, capitalized rather extensive expenditures that had been made on computer research and prototypes. During the audit by the independent public accountants, Arthur Andersen and Company, the worth of this "asset" on the balance sheet came under severe scrutiny. The result was that the accountants refused to give an unqualified opinion as to

the financial status of the company. The overwhelming majority of companies write off their research costs when expended.

The Laboratory for Electronics example is by no means unique. There is a tendency on the part of many individuals in management not to accept proper fiscal policies. These individuals are generally the first to discard a piece of obsolete machinery from the production line, and the last to want to see a charge for equipment obsolescence on the company's financial statements. It is the old analogy of the ostrich sticking its head in the sand. The accounting oriented person on the board can do much to educate and/or persuade these individuals toward a proper fiscal policy.

4. "Outside" Directors

Companies in the survey had an average of 3 "outside" directors. The companies with a net worth over \$1,000,000 had an average of 5, while the companies worth under \$1,000,000 had an average of 3. It is interesting to note that the American Institute of Management has recommended 2 "outside" directors for the smaller company boards.

(Table IX Follows)

TABLE IXAverage Number of "Outside" Directors Per Companyby Financial Net Worth ClassificationSurvey - Board of Directorsin Electronics Industry in New England,F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>NET WORTH</u>	<u>REPLIES</u>	<u>NUMBER OF "OUTSIDE" DIRECTORS</u>	<u>AVG. NO. PER COMPANY</u>
Over \$1,000,000	23	108	5
\$500,000 - \$1,000,000	12	29	3
\$100,000 - \$500,000	11	22	2
Under \$100,000	13	12	1
No Rating Available	<u>21</u>	<u>67</u>	<u>3</u>
TOTAL	80	238	3

Source: Survey Questionnaire

*Note: Averages adjusted to difference between Table III and Table VI.

The term "outside" director as used here refers to those individuals on the board who are not members of the day to day operating management. Although an "outside" director may owe his position to operating management, he generally does not make the major portion of his livelihood from this activity, and as such, is more or less independent. Of the 238 directors surveyed 45% were businessmen in the same, related, or other industries; 43% were professional people, including lawyers, bankers, investment specialists,

and educators; and only 12% were minority, creditor or other special interest representatives.

The sensitivity of stockholder representation on the board makes this a difficult question for a mail survey. Therefore, it is not possible to tell how many of the "outside" directors were management appointees, and how many were placed on the board by major stockholders. This is not always the important question anyway, because major stockholder representatives generally go along with a profitable management. It is only when the major stockholder wants to impose his will on operating management that the question of who represents whom becomes important. This is an entirely separate question than whether or not the entire board is acting properly with regard to the general public - i.e., its fiduciary responsibility.

The survey did not attempt to make analysis of any historical changes in the board; it was a static appraisal. Changes in the board can signal different results depending upon the circumstances. The board may be decreased to improve workability or eliminate a director who has been annoying the operating management control, or an increase may be made with management oriented directors to outvote the "outsiders."

(Table X Follows)

TABLE X
Analysis of "Outside" Directors
by Principal Business Background
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England,

F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

	<u>OVER</u> <u>\$1000M</u>	<u>\$500M-</u> <u>\$1000M</u>	<u>\$100M-</u> <u>\$500M</u>	<u>UNDER</u> <u>\$100M</u>	<u>NO RAT</u> <u>AVAIL.</u>	<u>OVER-</u> <u>ALL</u>
Businessmen, same or related industry	30	9	3	5	17	64
Businessmen in other industries	21	3	6	-	14	44
Bankers & Invest- ment Specialists	32	7	4	1	17	61
Lawyers	15	5	5	3	9	37
Professional Directors	2	-	-	-	-	2
Educators	4	-	1	-	1	6
Creditor Representatives	-	-	-	-	2	2
Minority Investor Representatives	3	4	2	2	3	14
Other	<u>1</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>8</u>
TOTAL	108	29	22	12	67	238
TOTAL COMPANIES	23	12	11	13	21	80

Source: Survey Questionnaire

TABLE XIPercent Analysis of "Outside" Directorsby Principal Business Backgroundby Financial Net Worth ClassificationSurvey - Board of Directorsin Electronics Industry in New England,F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

	<u>OVER</u> <u>\$1000M</u>	<u>\$500M-</u> <u>\$1000M</u>	<u>\$100M-</u> <u>\$500M</u>	<u>UNDER</u> <u>\$100M</u>	<u>NO RAT</u> <u>AVAIL.</u>	<u>OVER-</u> <u>ALL</u>
Businessmen, same or related industry	28%	31%	14%	42%	25%	27%
Businessmen in other industries	10%	10	27	-	21	18
Bankers & Invest- ment Specialists	29	24	18	8	25	26
Lawyers	14	17	23	25	13	16
Professional Directors	2	-	-	-	-	1
Educators	4	-	5	-	2	3
Creditor Representatives	-	-	-	-	3	1
Minority Investor Representatives	3	15	8	17	5	6
Other	<u>-</u>	<u>3</u>	<u>5</u>	<u>8</u>	<u>6</u>	<u>2</u>
TOTAL % "OUTSIDE" DIRECTORS	100%	100%	100%	100%	100%	100%
TOTAL COMPANIES	23	12	11	13	21	80

Source: Survey Questionnaire

a. Businessmen in the Same or Related Industry

Each company had an average of one businessman in the same or a related industry. These individuals represent the largest group of "outside" directors, approximately 27% of the total.

The individuals in this category are for the most part customers, suppliers, and representatives of major stockholders. Their background makes them more or less conversant with problems particular to the industry.

They can make a very important contribution, because of their industry relationship. It is generally easier for the operating management to accept advice and/or criticism from someone who they feel more or less understands their objectives.

b. Businessmen in Other Industries

An average of one out of every two companies had a businessman on its board from another industry. These individuals represent 18% of the total "outside" directors. Although they may represent major stockholders, they may also make a very effective contribution by bringing a fresh approach to the board.

A director from another industry may be just the right individual in some events. For example, the electronics industry for the most part has not been hampered by labor unions. This is an asset to the operating manage-

ment, but also a liability because of the inexperience if some labor difficulty should arise. The director from the other industry may be well founded in management-union relations and be just the answer to an otherwise unversed management.

c. Bankers and Investment Specialists

More than one out of every two companies on the average had a banker or investment specialist on the board. This class represented 26% of the "outside" directors.

The value of bankers and investment specialists on the board generally is that these individuals complement the "inside" financial people, have a wide and diversified background, and may provide a ready path into financial institutions when additional capital is required.

The drawback to having a banker or investment specialist on the board can be that they are representing special interests, and as such are not looking after the general interest of the corporation. The banker who represents the institution financing current requirements will be much less likely to encourage a large capital outlay for fixed plant equipment because this may weaken the cash position and thus be detrimental to his special interest.

Another problem is once you have decided to get a banker on the board and you make up your mind that your present banker is the man, you have the difficult problem of approaching the individual, for if he turns you down, your previously good relations may never be the same with that particular bank. To avoid this possible unpleasantness, check the local list of directors to see if your banker is on a board - some banks refuse to allow their employees to serve on customer boards; next, feel out someone at the bank, other than the person you want, to see what the trend is; and next, if the previous investigation was successful, ask your man. (10)

d. Lawyers

Perhaps the most consistent representation in the industry for all sizes of companies were lawyers. They represent an average of 15% of "outside" directors, and approximately one out of every two companies had one on the board.

The lawyer is on many boards for many various reasons. Some of the reasons are: being so close to the owner at the inception of the business, and so involved in its legal establishment, he is asked to be a director to fulfill the statutory requirements; the lawyer is very effective on the board of a company going through a special transistion. For example, a reorganization; and, many large stockholders select lawyers to represent them on the board.

In the first instance the general counsel on the board has a constant conflict of interest problems. For example, he is a supplier of legal services and he supplies himself as a director. This is true of other suppliers, but the lawyer as a professional man finds himself advising himself which is really an illogical situation. The above statement is not intended to include full time lawyers who are on the company's payroll. These individuals are "inside" directors.

During reorganization, a lawyer can make an excellent board chairman, since this is the problem of the day and the lawyer is a specialist, just as if there were a production problem and a production specialist was put on the board. Generally, when the special situation is over, the lawyer should step down in favor of a business executive conversant with a going concern's problems. This is not an inflexible rule because some lawyers have stayed on after the special situation and made a success of the venture on a going concern basis. For example, Leonard H. Goldenson, President of American Broadcasting-Paramount Theatres, Inc. was originally a corporation lawyer who took over during a reorganization many years ago. Today the company is very successful with Goldenson still at the helm.

Do not be offended if after asking your lawyer to be a board member he refuses. Some law firms, although

not many, have rules against members serving on clients' boards, because of the conflict of interest problems.

e. Educators

Only six of the 238 "outside" directors were educators, or approximately 3%. Of these six, four were in companies with a financial strength exceeding \$1,000,000. Unless the educator has had some real practical experience, as most have, he is probably on the board for the sake of his or the company's prestige, and therefore, is not making an effective contribution to the board's activities.

f. Creditor Representatives

Only two, or approximately 1%, of the "outside" directors were admitted to be creditor representatives, although it is possible that there are others who have been otherwise classified. These directors are obviously special interest people who are usually only found in companies which have some financial difficulty.

g. Minority Investor Representatives

Approximately 6% of the "outside" directors were representatives of minority investors. Unless the company has bylaws allowing cumulative voting for directors, this group has little or no force and are on the board at the whim of management to avoid court and other entanglements.

h. Others

As a class the "others" amounted to 2% of the "outside" directors, and for the most part were relatives put on the board to satisfy statutory requirements.

III "INSIDE" VERSUS "OUTSIDE" BOARDS

In the United States today, the "Ownership Revolution" is in full swing. The unprecedented level of the economy has created a large middle class investing group; meanwhile, the graduated income tax, except in very few cases, has virtually eliminated the concentration of wealth in the individual. Consolidation and merger, as well as economic growth, has built many corporations into giants with thousands of stockholders. These two facts, coupled with actual or contingent legislation, for example, the du Pont ruling which prevents the five du Pont directors on the General Motors board from exercising control, has made the management of many corporations independent of the investors who own their companies. As a matter of fact, of the 200 largest corporations, controlling over 50% of manufacturing assets, at least one third have no stockholder who owns enough shares to influence management. (6)

Pension, mutual and insurance funds represent the largest group of investors today. Generally these funds have been most reluctant to impose any restrictions on the operating management, in fact many funds do not bother to vote their shares, and those that do generally "rubber stamp" the management. The funds live in fear of legislation; the fear that management will "go to Washington"

against these bullies. The only method of censure that the funds use is to sell their interest in the corporation, which is really no censure at all.

The "inside" management of some companies have declared themselves virtually independent of the board. They justify this declaration of independence upon the proposition that management is a professional group which should be allowed to set its own checks and balances, and take into its own hands the public responsibility of the corporation which heretofore had been vested in the board. (6) One of the proponents of this theory is Professor Stanley Vance, of the University of Massachusetts. His article Trends in Boards, More Insiders,⁽¹⁴⁾ concludes that "inside" boards are more democratic and therefore the best kind.

The responsible members of the "inside" management realize that their job is to apply their management art to maximize profits. These people further realize that their day to day activities may tend to narrow their view, and therefore they welcome "Outsiders" on the board for the objectivity these people can supply.

The National Industrial Conference Board survey of 925 companies indicates that the companies were only 43% controlled by "inside" boards."⁽⁹⁾ Of the 80 companies surveyed in the New England Electronics Industry, 56% were controlled by "inside" directors. It is important to point out, however, that only 39% of the companies

having a financial net worth over \$1,000,000 were "inside" controlled, see Table XII below:

Table XII
"Inside" Versus "Outside" Control
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England

F.J.O'Driscoll, Graduate School, Boston University-Feb. 1960

	<u>"INSIDE"</u> <u>CONTROL</u>	<u>"OUTSIDE"</u> <u>CONTROL</u>	<u>TOTAL</u> <u>REPLIES</u>	<u>"INSIDE"</u> <u>CONTROL</u>	<u>"OUTSIDE"</u> <u>CONTROL</u>
Over \$1,000M	9	14	23	39%	61%
\$500M-\$1,000M	8	4	12	67	33
\$100M-\$500M	10	1	11	91	9
Under \$100M	9	4	13	69	31
No Rating Available	<u>9</u>	<u>12</u>	<u>21</u>	<u>43</u>	<u>57</u>
TOTAL	45	35	80	56%	44%

Source: Survey Questionnaire

Note: 50% considered "Inside" control.

Any analysis of "inside" versus "outside" directors must presuppose that the "outside" director is a strong, experienced person who is capable of independent thinking or else his presence is without value.

The "outside" director usually is a means to assuring the stockholder that his interests are being protected, especially in the area of management compensation.

In addition to this, the "outside" director in his part time capacity can give the smaller company a management depth and experience which it could not afford on a full time basis.

Where management refuses to accept the responsibility for providing "outside" directors there is little the minority stockholder can do unless the state law allows or requires cumulative voting for directors, in which case the minority may find it possible to elect one or more directors of their own selection.

In New England only two states, Rhode Island and Maine, have permissive statutes allowing cumulative voting if specifically provided in the charter or by-laws; the other four states* have no provision. The trend is definitely toward cumulative voting with only 10 states having no provision (four of them in New England).⁽⁴⁾ Although some rulings for individual corporations in "no provision" states seem to imply that cumulative voting would be acceptable, the majority view is that any such provision in the charter or by-laws of a corporation in a "no-provision" state would be wide open to judicial challenge.⁽¹²⁾

*Note:

It is of particular interest to note that in 1955 the Massachusetts Legislature enacted a permissive statute authorizing cumulative voting in the election of directors (chapter 173 of the Acts of 1955) but struck it out in 1956 (chapter 375 of the Acts of 1956). Until this somewhat odd action of the Massachusetts Legislature it had been generally

supposed by many corporation lawyers in this state that cumulative voting was permitted under the broad terms of the organization statutes (G.L. chapter 155 and 156) and by a statement in Opinion of the Justices, 261 Mass. 556, 596.

There is, now, no question on the subject: cumulative voting is not legal in Massachusetts, especially since 1956.

IV COMMITTEES

Many of the problems which a board may face require a substantial amount of detail work before any decision can be made. Some of these decisions require a considerable amount of follow up time to ensure that the board's decisions are being followed. Since the board only meets periodically, special committees of the board are established to perform the detail and follow up work. Due to historical usage in some companies, and the expressed wish of a dominant chief executive in others, some of these committees have usurped the power of the full board, i.e. have the power to act in its stead.⁽⁵⁾ This is not to condemn the use of committees, only the misuse, for a committee can be invaluable in cleaning away the routine and presenting to the full board only that information which the board should pass on. The executive, finance and wage and salary committees were used by more companies than any of the other committees. These were the only committees that had the power of the full board, see Table XIII below.

Table XIIIBoard CommitteesNumber of, and Percent Usage, by the 80 CompaniesSurvey - Board of Directorsin Electronics Industry in New EnglandF.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Type of Committee</u>	<u>Number of Companies using this Committee</u>	<u>Percent of usage (80 Companies)</u>	<u>No. with power to act for Board</u>	<u>Percent Power to act for Board</u>
Executive	25	31%	14	56%
Sales	2	3%	-	-
Engineering	1	1%	-	-
Production	1	1%	-	-
Finance	9	11%	2	22%
Profit Sharing	1	1%	-	-
Retirement Plan	1	1%	-	-
Wage and Salary	10	13%	4	40%
Building	1	1%	-	-
Donations	1	1%	-	-

1. Executive Committee

The executive committee is used by 25, approximately 31%, of the 80 companies surveyed. The American Institute of Management's survey of 500 larger corporations show a 75% use of an executive committee.⁽¹⁾ The size differential explains the variance because, as Table XIV shows, none of the companies with a financial strength under \$100,000 used an Executive Committee and over \$100,000 the

percent increased by size of company. There was a 52% use of executive committees by the companies rated over \$1,000,000 in financial strength, this percentage is more in line with the 500 company average.

Table XIV

Use of Executive Committees
by Financial Net Worth Classification

F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

	<u>Over</u> <u>\$1000M</u>	<u>\$500M</u> <u>\$1000M</u>	<u>\$100M</u> <u>\$500M</u>	<u>Under</u> <u>\$100M</u>	<u>No Rat.</u> <u>Avail.</u>	<u>Total</u>
Number using Committee	12	4	4	-	5	25
Total Replies	23	12	11	13	21	80
Percent Usage	52%	33%	33%	-	25%	31%
Number having Power of Board	5	4	2	-	3	14
Percent of Committees	42%	100%	50%	-	60%	56%

Approximately 56% of all the executive committees reported had the power to act for the full board, rather than to merely make recommendations. No attempt was made in the questionnaire to determine whether actions were subject to any further ratification by the full board.

Among the companies which replied to this question, the executive committees of Geartronics Corporation, Technical Operations, Incorporated, Technology Instrument Corp., and Waterbury Pressed Metal Co. had the power to act for the board; whereas the same committee in the Heli-Coil Corp.

and H. H. Scott, Inc. did not.

The powers of the executive committee may be written into the by-laws, or merely passed down by the board. Although it is not a New England Electronic Company, the by-law requirements of the executive committee of the E. I. du Pont de Nemours and Company may serve as an excellent example:

The by-laws provide that between monthly meetings of the board the executive committee:.... shall possess and may exercise all the powers of the Board of Directors in the management and direction of all the business and affairs of the company..... in such a manner as the Executive Committee shall deem best for the interest of the company in all cases in which specific directions shall not have been given by the Board of Directors.

This committee is limited only by certain financial, audit and bonus and salary matters which are reserved for the other board committees. The executive committee consists of the president and nine vice-presidents, and it is almost autonomous: "No one in du Pont...would make the mistake of attributing top company authority anywhere but to the executive committee." (6)

Whether or not this degree of autonomy exists in the executive committees in the electronic companies surveyed, is questionable, but the example points up the problem, namely, that the "inside" members may usurp the power of the full board, even if the "inside" directors are not a majority. This would leave the full board with

little or no authority and the operating management acts as its own mentor.

2. Officer and Employee Compensation Committees

The next most used committees found in the 80 companies were those dealing with compensation, including wage and salary (13%), profit sharing (1%) and retirement plan (1%), a total of 15%. Compensation committees were found in 46% of the companies rated over \$1,000,000. This is substantially over the 25% average computed by the American Institute of Management in its 500 company survey.

It is important that compensation committees have "outside" director representation, particularly those listed for public investment. Otherwise, the general public investor has no assurance that operating management is not setting compensation, i.e. salaries, wages, stock options, etc., that is unreasonable, and to the investor's detriment.

3. Finance Committee

Board committees which establish policy on financial matters were present in 11% of the companies. Some of the areas usually controlled by a finance committee are capital acquisitions, inventory accumulation, extension of credit, and state of the assets.

V MEETINGS

One method of measuring the activity of the board is to examine the frequency and length of meetings. Although frequency and length of meetings may be unscientific methods of appraisal of board participation, the results of this method have been otherwise correlated, and other analysts of board activity have used the method successfully, among them The National Industrial Conference Board, The American Society of Corporate Secretaries, Inc., and The American Institute of Management.

1. Frequency

A survey of 925 companies has revealed that 56% held meetings once per month, and 44% held meetings 10 times per year or less. The electronic companies surveyed for this thesis were not consistent, as a group, with the 925 company average because only 38% held meetings at least once per month, although 52% of companies rated over \$1,000,000 held meetings at least once per month.

(Table XV Follows)

TABLE XV
Frequency of Board Meetings
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England

F.J.O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Frequency</u>	<u>Over \$1000M</u>	<u>\$500M \$1000M</u>	<u>\$100M \$500M</u>	<u>Under \$100M</u>	<u>No Rat. Avail</u>	<u>Total</u>	<u>%</u>
Weekly	-	-	1	1	1	3	4%
Monthly	12	3	3	2	6	26	34
Bi-Monthly	2	1	1	-	3	7	9
Quarterly	7	3	2	1	6	19	25
Semi-Annually	1	4	1	-	2	8	10
Annually	<u>1</u>	<u>-</u>	<u>3</u>	<u>7</u>	<u>3</u>	<u>14</u>	<u>18</u>
Total Companies	23	11	11	11	21	77	100%
Avg. Meetings Per Year	8	6	10	8	8	8	

Source: Survey Questionnaire ("No Replies" Eliminated)

2. Length of Meetings

The average company surveyed had board meetings that lasted three hours, this average was also true of the companies rated over \$1,000,000 in financial strength.

Table XVI indicates the average length of each board meeting.

(Table XVI Follows)

Table XVIAverage Length of Each Board Meeting in Hoursby Financial Net Worth ClassificationSurvey - Board of Directorsin Electronics Industry in New EnglandF.J. O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Length in Hrs.</u>	<u>Over \$1000M</u>	<u>\$500M \$1000M</u>	<u>\$100M \$500M</u>	<u>Under \$100M</u>	<u>No Rat. Avail.</u>	<u>Total</u>	<u>%</u>
$\frac{1}{2}$	-	-	1	4	3	8	10
1	2	2	6	7	5	22	29
2	6	3	1	-	1	11	13
4	12	4	3	-	10	29	38
6	2	2	-	-	1	5	7
8	<u>1</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>2</u>	<u>3</u>
Total Companies	23	11	11	11	21	77	100%

Source: Survey Questionnaire ("No Replies" Eliminated)

3. Hours Per Year

The most important analysis of this subject can be found in Table XVII, the length of board meetings in hours per year. This is true because obviously there is more board activity in a company which meets two hours per month (24 hours per year) than a company which meets six hours per semi-annual meeting (12 hours per year).

(Table XVII Follows)

Table XVIILength of Board Meetings in Hours Per Yearby Financial Net Worth ClassificationSurvey - Board of Directorsin Electronics Industry in New EnglandF. J. O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Hours per Yr.</u>	<u>Over \$1000M</u>	<u>\$500M \$1000M</u>	<u>\$100M \$500M</u>	<u>Under \$100M</u>	<u>No Rat. Avail</u>	<u>Total</u>	<u>%</u>
½ - 12	4	4	5	9	9	31	41%
13 - 24	11	5	3	1	5	25	33
25 - 52	<u>8</u>	<u>2</u>	<u>3</u>	<u>1</u>	<u>6</u>	<u>20</u>	<u>26</u>
Total Replies	23	11	11	11	20	76	100%
Avg. per Yr - Hrs.	23	18	18	10	19	19	

Source: Survey Questionnaire ("No Replies" Eliminated)

More than 59% of the New England electronic companies spent at least 12 hours per year in board meetings. The average of one hour per month has been considered the minimum requirement by the American Institute of Management and any amount less than this may indicate a perfunctory board which is not performing in accordance with its responsibilities.

4. Meeting Preparation

A good meeting usually is one that is well prepared, with a clear preset agenda. Any supporting information to be supplied the board should be distributed sufficiently in advance to allow the board members to digest the facts and issues at hand.

The agenda is a matter of considerable importance, especially to the "outside" directors. If the "outside" directors are only allowed to see what is allowed for in the agenda, then there is little chance that the "outside" members will discover trouble until it becomes evident from the financial statements, which is generally too late. One method of preventing a management predigested agenda is to have an agenda committee which will include "outside" directors on a revolving basis. This "outside" director(s) should be allowed a free hand in investigating matters to be put on the agenda.

VI COMPENSATION OF DIRECTORS

In prior periods of our economic history the director was usually a major stockholder who was looking after his own interests, and as such needed no additional compensation. Many companies paid a token gold piece for director attendance. Today, most of the directors are "inside" management people or "outside" directors, who do not own large amounts of stock. These directors, especially those fulfilling their proper functions, should be adequately compensated. The matter of director compensation, today, is generally a two headed coin because a company must pay enough to attract talented individuals, yet not so much that the fee becomes all important to the director and his judgment is influenced by it.

1. "Inside" Directors

Information on "inside" director compensation (Table XVIII) indicates that only 14% of the companies, representing 14% of the management directors, receive additional compensation for their director activity.

(Table XVIII Follows)

Table XVIIIMethod of Compensation of "Inside" Directorsby Financial Net Worth ClassificationSurvey - Board of Directorsin Electronics Industry in New EnglandF. J. O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Number of Companies</u>	<u>Over \$1000M</u>	<u>\$500M \$1000M</u>	<u>\$100M \$500M</u>	<u>Under \$100M</u>	<u>No Rat. Avail.</u>	<u>Total</u>	<u>%</u>
Part of other Salary	15	12	8	11	19	65	86%
Additional Compensation	<u>7</u>	<u>-</u>	<u>3</u>	<u>-</u>	<u>1</u>	<u>11</u>	<u>14</u>
Total Replies	22	12	11	11	20	76	100%
<u>Number of Directors</u>							
Part of other Salary	59	37	22	29	53	200	86%
Additional Compensation	<u>21</u>	<u>-</u>	<u>11</u>	<u>-</u>	<u>2</u>	<u>34</u>	<u>14</u>
Total	80	37	33	29	55	234	100%

The majority view is that the "inside" director is adequately compensated for his director activity by his ordinary salary. Some feel, as this writer does, that directorship entails additional legal duties which should be compensated. At the very least that portion of the total salary which could be reasonably associated with director activities should be segregated and paid separately. This method would point up to the "inside" director that his board activity should be

considered as separate and distinct from his operating responsibility - that he is wearing his second hat and is being paid to perform that job.

2. "Outside" Directors

Approximately 39% of the electronic companies reporting did not compensate "outside" directors. These individuals, 41% of the "outside" directors, probably represent major stock interests and are therefore, compensated by the owners thereof. Annual fees were paid by 31% of the companies that paid some compensation, the remaining 69% paid per meeting fees.

(Table XIX Follows)

Table XIX
Method of Compensation of "Outside" Directors
by Financial Net Worth Classification
Survey - Board of Directors
in Electronics Industry in New England

F. J. O'Driscoll, Graduate School, Boston University, Feb. 1960

<u>Number of Companies</u>	<u>Over \$1000M</u>	<u>\$500M \$1000M</u>	<u>\$100M \$500M</u>	<u>Under \$100M</u>	<u>No Rat. Avail.</u>	<u>Total</u>	<u>%</u>
Annual Fee	4	1	3	1	3	12	20
Per Meeting Fee	14	6	4	-	6	30	51
Not Compensated	<u>3</u>	<u>2</u>	<u>2</u>	<u>5</u>	<u>5</u>	<u>17</u>	<u>29</u>
Total Replies	21	9	9	6	14	59	100%
<u>Number of Directors</u>							
Annual Fee	17	6	3	2	12	40	19%
Per Meeting Fee	60	17	15	-	16	108	52
Not Compensated	<u>21</u>	<u>6</u>	<u>4</u>	<u>10</u>	<u>18</u>	<u>59</u>	<u>29</u>
Number of Directors	98	29	22	12	46	207	100%

The companies which reported a dollar amount paid an average per meeting fee of \$50.00, which is \$600.00 per year. The National Industrial Conference Board survey of 925 companies reveals that the average company paid a per meeting fee of \$100.00, or \$1,200.00 per year. That survey also showed that 30% of all companies paid an annual fee, and 10% allowed directors to participate in employee fringe benefits. (9)

Note: For income tax purposes the director is not an employee, he is a self-employer, and as such, income tax should not be withheld from his pay. As a self-employer he should pay a self-employment tax. Legal fees paid to defend stockholder and other suits are deductible. (Internal Revenue Code, 1954).

VII Functions and Responsibilities

The image of the director has been molded in the preceding sections, this section presents his role in the corporation, the reason for his existence. To make a good director a man has to have the fundamental qualifications of character, ability, and breadth of viewpoint, including a sense of business ethics and public responsibility, plus long range foresight as distinguished from a dependency upon expediency.⁽²⁾

The directors are responsible for the management of the corporation; they are legally bound to that degree of care which ordinarily prudent and diligent men would exercise under similar circumstances. This broad definition was laid down in *Briggs vs. Spaulding*, 141 U.S. 132, by the U. S. Supreme Court; any less a standard would relieve the directors of that responsibility necessary for the conduct of a business, any more strict a standard would prevent men from accepting the position which ordinarily offers only token payment.

The board has two major roles - trusteeship and administration. The two roles are interdependent since the trusteeship sets the task, and administration provides the means for fulfilling the task.

1. Trusteeship

Corporate directors have a fiduciary responsibility for the successful operation of the corporation, including earnings and dividends for the stockholders, and jobs and adequate wages for the employee. The great depression of the 1930's proved that the irresponsibility of directors, through fraudulent statements and fast dealings, could set the economy aside and cause misery for millions. If the directors of today abdicate their responsibility another learned man might have to write the following, as did the Hon. Harlan F. Stone in 1934: (12)

I venture to assert that when the history of the financial era which has just drawn to a close comes to be written, most of its mistakes and its major faults will be ascribed to the failure to observe the fiduciary principle.

The responsibility of the directors stem from two basic sources, 1.) statutes and 2.) additional requirements contained in the charter and the by-laws. These responsibilities include selecting and electing officers; setting executive salaries, bonus plans, and pensions; determining dividend policy; selecting and dealing with auditors; determining basic policies and broad courses of business; reviewing, appraising, and controlling over-all results with budgets, reports, and inspections; and otherwise representing, safeguarding, and furthering stockholders and the public interest.

The directors are the exclusive, executive representatives of the corporation and are charged with the management and use of the assets. The stockholders can not inquire into their actions unless fraud or bad faith can be shown. Nevertheless, the directors may not sell the entire assets of a solvent corporation without the prior approval of the stockholders, although in most states the directors may make a general assignment of the assets if the corporation is insolvent.

2. Administration

The administration of the corporation in its broadest concept is merely developing and implementing policies to insure that the trustee principle is being adhered to. These policies are the pathways out for the operating management. The board must stick to policy making, leaving operating activities to the operating management, but if it sees some operating activities leading to a major policy problem, it should step in and make the policy decision immediately to avoid further conflict.

VIII Conclusion

This thesis has presented, for the first time, a specific analysis of the boards of directors in the New England Electronics Industry. The presidents of more than 50 companies have requested a condensed summary of the results of this survey. It is reasonable to assume that some of these presidents will use this information to more effectively compose and guide their respective boards.

Logically, the average person might assume, particularly of the smaller companies surveyed, that in this type of industry, with its youth and recent technology, the board members are younger than average; and that more boards are controlled by the original founders, present in the "inside" management group. These assumptions are borne out by the thesis results.

The larger companies surveyed have boards which equal, or excel, the national averages in composition and performance. This is most probably because almost 70% of these companies are listed for public investment, and therefore, subject to the stringent requirements of many more regulatory agencies and laws. The electronic company boards are less cumbersome (8 members versus 11 members); younger (50 years versus 60 years); less controlled by "inside management (39% versus 43%); and more prone to attention to the vital area of employee compensation (46%

have Compensation Committees versus 25% nationally).

The writer recommends that, where lacking, more production oriented people should be added to the board. Also, there should be a segregation of that part of the executive's salary which could be reasonably associated with his board activities. This method of payment, although adding nothing to the "inside" directors total salary, would enable that director to realize his dual responsibility.

Professor Wayne G. Broehl, Jr. of Dartmouth College, in an address to the Investment Casting Institute, New York, 1959, has summed up the pulse of New England Electronic Industry Boards in the following statement:

I am constantly impressed by the vitality of some of our New England companies in facing their regional, national, and even international responsibilities. It is interesting that these progressive firms generally have strong boards of directors.

Appendix A
Legal Supplement

A. General

The statutes, charter, or by-laws may specifically prohibit some person or class of persons from serving as directors. In the absence of a provision to the contrary, anyone who is legally competent may serve as a director. Therefore, among others, this excludes infants, insane persons, and married women unless there is a statute removing the disability of married women at common law. Unless specifically required by statute, charter, or by-laws directors need not own stock. The following specific statutes will provide some legal background to board composition.

B. Specific Statutes in New England -

1. Requirements for Directors

a. Connecticut

Directors shall be stockholders, except when a corporation owns stock in another corporation, in which case one, and only one, director of the other corporation may be a director or executive officer or agent of the owning corporation, and he himself need not own stock. (Chapter 250, Section 5165, 1949)

b. Maine

Directors must be and remain stockholders, except that a member of another corporation, which owns stock and has a right to vote thereon, may be a director. (R.S. as amended, Chap. 56. Sec. 31)

c. Massachusetts

Every director, unless the by-laws otherwise provide shall be a stockholder. (Chap. 156, Sec.22 G. L., 1932)

d. New Hampshire

There is no provision requiring a director to be a stockholder, therefore, the general rule applies that he need not be a stockholder in the absence of specific provision.

e. Rhode Island

Directors need not be stockholders unless the charter, articles of incorporation, or by-laws specifically require. (G.C.L., as amended, Sec.19)

f. Vermont

All directors must be stockholders, except in the interval between formation of the corporation and the issue of stock. (G.C.L., as amended, Sec.5779)

2. Number of Directors

a. Connecticut

The property and affairs of each corporation shall be managed by three or more directors.

(Chapter 250, Section 5165, 1949)

b. Maine

There shall not be less than three directors
(R.S. as amended, Chapter 56, Section 31)

c. Massachusetts

The business of every corporation shall be managed by the president, clerk, treasurer, and other officers and agents; and by a board of not less than three directors. (Chapter 156, Section 21, G.L., 1932)

d. New Hampshire

There shall be a board of not less than three directors. (Chap 274, Sec. 30, Rev. Laws, 1942)

e. Rhode Island

Every corporation may have a board of directors of such number and such officers as the charter, articles of association, or by-laws may prescribe. (G.C.L., as amended, Section 19)

f. Vermont

The affairs of a corporation which is to have a capital stock, according to its articles of association, shall be managed by a board of not less than three directors. (G.C.L. as amended, Section 5779).

3. Election of Directors

a. Connecticut

Directors shall be chosen annually by the stockholders at such time and place as may be provided by the by-laws. The directors may fill any vacancy in their number for the unexpired portion of the term or until such corporation shall fill such vacancy. (Chapter 250, Section 5165, 1949).

b. Maine

Directors shall be chosen annually and continue in office until others are chosen and qualified in their stead. (R.S. as amended, Chapter 56, Section 31).

c. Massachusetts

The directors, treasurer, and clerk shall be elected annually by ballot, by such stockholders as have the right to vote, and the president shall be elected annually by and from the board of directors. (Chap 156, Sec. 22, G.L., 1932).

d. New Hampshire

The board of directors shall be elected annually. (Chap. 274, Se. 89, 1942)

e. Rhode Island

The manner of election may be prescribed by charter, articles of association or by-laws.

Unless otherwise provided in the by-laws, vacancies in the board may be filled by the board of directors. (G.C.L., as amended, Section 19).

f. Vermont

The board of directors shall be elected annually. (G.C.L., as amended, Sec. 5779).

4. Director Terms

a. Connecticut

Directors shall hold office for one year, or until the next annual meeting, or until others shall be chosen and shall have been qualified in their stead. No directors shall be elected for less than one year nor for a longer period than five years (Chap. 250, Sec. 5165, 1949).

b. Maine

Directors - - - shall continue in office until others are chosen and qualified in their stead. Nothing shall prohibit their election for a longer term than one year (R.S., as amended, Chap. 56, Section 31).

c. Massachusetts

A corporation may divide its directors into classes and prescribe the tenure of office for the several classes and the class of stock by which each class of directors shall be elected, but no class shall be elected for a shorter period than one year

or for a longer period than five years. The term of office for at least one class shall expire each year. (Chap. 156, Sec. 22, G.L. 1932).

d. New Hampshire

Unless otherwise provided in the by-laws, the officers and directors shall hold office for one year and until their successors shall be chosen and qualified. (Chap. 274, Se. 89, Rev. Laws, 1942).

e. Rhode Island

The terms of office will be prescribed by the charter, articles of association, or by-laws. (G.C.L., as amended, Section 19).

f. Vermont

Unless otherwise provided in the Articles of Association, directors shall be elected annually by the stockholders, and hold office for one year, or until a successor is elected and qualified. (G.C.L., as amended, Sec. 5779).

Appendix B

Francis J. O'Driscoll
40 Samoset Road
Woburn Mass.

February 17, 1960

Dear Sir:

I am currently writing a thesis on the "Boards of Directors in the Electronics Industry in New England" as a partial requirement for a Masters Degree in Business Administration at Boston University. Since the best source of information is obviously from the companies in the industry, I have prepared the enclosed questionnaire which takes only a few minutes to complete. This questionnaire has been sent to over 500 companies in the industry in New England.

The information requested will be used in statistical form, and no direct mention will be made of your company unless you specifically give your permission on Page 3 of the questionnaire. If you believe that a particular question will compromise some proprietary information, please pass that question and complete the others.

The thesis will be complete in June 1960, and at that time a condensed summary, approximately ten pages, will be available at cost, approximately one dollar. A self-addressed stamped envelope is enclosed for your convenience.

Thank you for your cooperation.

Sincerely,

Francis J. O'Driscoll

Enc.

"The Board of Directors in the Electronics Industry
in New England"
Survey Questionnaire
by Francis J. O'Driscoll

Company: _____

1.) How many directors in your company? _____

2.) How many "inside" directors? _____

3.) What are their principal business backgrounds?

Please indicate the number in each category.

a.) Administration _____

b.) Sales _____

c.) Production (including Purchasing) _____

d.) Engineering and R & D _____

e.) Finance and Accounting _____

4.) How many "outside" directors?

5.) What are their principal business backgrounds?

Please indicate the number in each category.

a.) Businessmen in the same or related fields _____

b.) Businessmen in other industries _____

c.) Bankers _____

d.) Lawyers _____

e.) Investment specialists _____

f.) Professional directors _____

g.) Educators _____

h.) Creditor representatives _____

i.) Minority investor interests _____

6.) Age of directors - please indicate the number of directors who are

Under 40 _____, Between 40 - 60 _____, Over 60 _____.

7.) Frequency of board meetings - please (x) one.

a.) Weekly _____ e.) Quarterly _____

b.) Bi-weekly _____ f.) Semi-Annually _____

c.) Monthly _____ g.) Annually _____

d.) Bi-monthly _____

8.) Average duration of meetings - please (x) one.

a.) $\frac{1}{2}$ hour _____ d.) 6 hours _____

b.) 1 hour _____ e.) 8 hours _____

c.) 4 hours _____ f.) More than 8 hours _____

9.) Board committees - please indicate with an (x) if your company has an:

a.) Executive committee _____

b.) Finance committee _____

c.) Wage and salary committee _____

10.) If there are other board committees, please specify:

a.) _____

b.) _____

c.) _____

11.) Do the committees have the power to act for the board, or merely recommend actions? Yes _____ No _____

12.) Compensation of directors - how are your directors compensated?

Please indicate with an (x) whichever is applicable.

a.) "Inside" directors:

1.) Director compensation is a part of other salary _____

2.) Additional compensation is given for directorship _____

b.) "Outside" directors:

1.) Annual fee _____

2.) Per meeting fee _____

3.) Combination of annual and per meeting _____

4.) Not compensated _____

13.) May I make specific mention of your company in my thesis?

Please indicate your approval by signing your name immediately below:

Signed _____

14.) Would you like a ten page summary of this subject at an approximate cost of one dollar. Yes _____ No _____

Signed _____

Title _____

Date _____

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