

## MARKETING INFORMATION IN MULTINATIONAL MANAGEMENT

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Of particular concern to marketers and developers of marketing information systems is the role played by marketing information in the management of MNCs. Since many overseas business activities begin their development as distribution or assembly/sales operations, it is natural to expect that marketing information would play a major role in the information basis for MNC management decisions. Indeed, Keegan has concluded that it is the marketing variable that is regarded as the most important decision variable in international investment by MNC managers (Keegan 1967). Yet, Piper finds that political, social, economic and marketing variables have received substantially less attention than the financial variables by MNC managers (Piper 1971).

There is, of course, no dearth of theory to support the importance of marketing information to MNC management. For instance, Terpstra (1972) and others emphasize that the size of the overseas markets, their potential growth, competitive structure, distribution channels, and other marketing variables must be critical inputs to the development of customer-oriented MNC marketing strategies.

This paper seeks to empirically assess the importance of marketing information relative to other varieties of information in MNC management. Others who have sought a similar objective have either attempted to have managers recall several recent decisions situations (Keegan 1967) or to analyze investment feasibility studies (Piper 1971). Both of these approaches would appear to over-emphasize the rational and analytical aspects of decision-making.

In this study the emphasis is on the assessment of managers' perceptions of the relative importance of a wide array of different specific kinds of variables which are of potential utility to MNC management. These perceptions are obtained and statistically analyzed to shed light of the relative perceived informational needs of managers at different organizational levels with different responsibilities and with different personal experiences and backgrounds. This approach has advantages over the others that have been taken because it should not be so biased toward the objective and analytical and because the decision maker's perceptions of environmental factors are directly linked to the strategies into which they will guide their organization (Weick 1969).

### METHODOLOGY

Data for the study were collected from a sample of 128 managers in a large U.S.-based MNC. These individuals were selected by the company as managers who were at the time actively involved in international business operations and who were located at U.S. based offices, including headquarters.

The perception data were obtained via questionnaires which arrayed 38 specific elements of information into six major categories. Table 1 shows these categories and specific informational elements as they are adapted from Piper (1971).

The MNC managers in the sample were asked to respond to each of the 38 informational items of a Likert-type scale ranging from "Very often Significant" to "Rarely Significant" as well as to provide information relating to their position, experience, etc. Sixty-four questionnaires were

returned of which 54 were usable for analysis. In addition, twelve personal interviews were conducted in order to supplement the formal responses.

The perception data were analyzed using multivariate discriminant analysis because it provides a way of assessing the statistical significance of differences in perceptions among various groups of manager-respondents with respect to the importance of the various informational elements. These analyses were carried out by the Clyde-Cramer approach using the Wilk's Lambda criterion (Cooley and Lohnes 1962). This program of multivariate discriminant analysis scans all variables and then selects those which contribute most to the separation of the predefined groups. The important points in the use of this tool in this situation are that: first, the discriminant functions are chosen in such a way as to maintain the greatest possible separation between the groups being compared; second, to determine the order of importance of the variables, discriminant functions are normalized so that their variance in each of the groups is unity; third, only statistically significant discriminant functions are used; fourth, a univariate F test is conducted in order to provide a basis for examining difference with respect to each of the individual variables by given managerial group. Finally, the extent of usefulness of a given discriminant function coefficient depends not only upon the reasonableness of the variables selected and the percentage of discriminable variance for which this function coefficient accounts, but also on the group mean vectors in the discriminant space (the extent of the distance between the group means of the separated groups). For this purpose, the group mean vectors are analyzed to identify which management groups differently perceive each class of variables.

TABLE 1  
DECISION VARIABLES IN FOREIGN  
INVESTMENT AND BUSINESS OPERATIONS

<p>1. <u>Economic and Legal</u></p> <p>Legal systems of host country Host government attitude toward foreign investment Demand and supply conditions for the product Restrictions on ownership Tax laws Import/export restrictions GNP/per capita income Inflation Level of industrialization</p>	<p>3. <u>Social</u></p> <p>Social unrest Religion/language/racial barriers Labor organizations Public literacy Public attitude toward foreign investment Living conditions for America managers and their families (schools, personal security, cultural difficulties, etc.)</p>
<p>2. <u>Finance</u></p> <p>Capital availability Acquisition and merger Projection of cash flows Return on investment Monetary exchange Insurance against risks (expropriation, nationalization, etc.)</p>	<p>4. <u>Political</u></p> <p>Host government political system Political instability Relations with neighboring countries Relations with supra-national organizations (UN, EEC, IMF, GATT, OECD, World Bank, etc.) Political party factions</p>

4. Political (continued)

Attitude of political opposition toward foreign investment  
 Military elite power in politics  
 Communist influence

5. Marketing

Market potential  
 Competition  
 Distribution channel systems  
 Production costs and pricing  
 Social/cultural factors impacting upon products

6. Technical and Engineering

Technology and its transferability  
 Raw material availability  
 Availability of cheap labor and trained management  
 Infrastructure to support business (electricity, telephone, roads, ports, etc.)

Respondents were analyzed in a variety of ways based on the following taxonomy:

1. Hierarchical levels (top, middle, and lower level managers)
2. Functional areas (Marketing, Finance, Planning, Engineering, and Production)
3. Product groups (Energy Product, Industrial Product, Consumer Product, and Management Services)
4. Line and staff
5. Overseas residence assignment (Residence Experience vs. No Residence Experience)
6. Overseas business trips (No trips, 1-10 trips, 11-20 trips, and 20-more trips)
7. Length of service (2-10 years, 11-20 years, 21-35 years)

THE OVERALL IMPORTANCE OF MARKETING INFORMATION

The overall relative ranking of the six major categories of variables is shown in Table 2 in terms of the raw mean scores from the Likert-scale responses. These data show marketing information ranked near the middle of the spectrum with financial information ranked highest and social information ranked lowest.

TABLE 2  
 MEAN SCORE VALUES FOR ALL RESPONDENTS  
 ON THE MAJOR ENVIRONMENTAL VARIABLES  
 (N = 54)

Variable	Mean
Financial	3.64
Economic/legal	3.22
Marketing	3.20
Political	2.99
Technical/engineering	2.98
Social	2.78

An analysis-of-variance test of these means leads to the conclusion that there is no significant difference except for the extreme pair--financial and social. Therefore, no valid conclusion can be drawn directly from Table 2 regarding the relative importance of marketing information.

However, it is interesting to contrast these results with those which might have been expected on other bases and with those obtained by others using other bases for measurement.

The relatively high degree of importance placed on financial information is not surprising. International operations requiring large capital investment have been expanding rapidly in importance to the company in question; it has purchased approximately 200 foreign subsidiaries since 1961.

Of the firm's 191 current overseas operations, 77% have principal activities which are classified as either "sales" or "manufacturing and sales". On this basis, it might have been hypothesized that marketing information would predominate or at least equal financial information in importance. Moreover, previous studies by Keegan, (1967) for international managers, and Aguilar (1967) for domestic managers, have concluded that marketing information is of greatest importance.

The low ranking of social information is also of significance to marketing. This confirms the finding by Piper (1971), and suggests that the social aspect of marketing analyses has not yet made great impact in the international domain.

Personal interviews with respondents tended to confirm the overall importance of financial information. These data were the most frequently mentioned in open-ended interviews. Many marketing managers even gave greatest importance to them. This was often manifested in comments regarding sales of the company's heavy equipment and the success of their turnkey projects were largely dependent on their customers' financial capabilities.

Of course, this apparent relative insignificance of marketing information may well reflect the overall composition of the sample. For instance, one might speculate that marketing information is of greatest significance to top management or to managers in capital good markets and that the broad population which is reflected in the responses of Table 2 serve to "wash out" these managerial segments. Because of this, analyses were conducted using the previously-noted managerial groupings as bases for defining management subpopulations which could be analyzed using discriminant analysis of the sample data.

ANALYSIS BY HIERARCHICAL LEVEL

The sampled managers were categorized by hierarchical level--top, middle, or lower management--and their responses were analyzed using discriminant analysis. This approach permits the assessment of the relative importance of categories of information on the basis of their relative importance of categories of information on the basis of their relative contribution to the discrimination "power." (Cooley and Fahnes 1962).

Table 3 shows the means, standard deviations and the results of the discriminant analysis for the six categories of information for the three management hierarchical levels. Wilk's Lambda criterion is used to assess the significance of the discrimination.

The discriminant function shows that the relative importance of the six categories of variables is (1) Political, (2) Social, (3) Financial, (4) Economic/legal, (5) Market, and (6) Technical engineering. The single largest contributor to the group separation along the discriminant function is the Political variable and the group difference is significant at  $P < .001$ . This means that the chance of producing group difference this large or larger by drawing three random respondents from a six-dimensional multivariate swarm is less than one in one thousand.

Thus, the hypothesis is that the three hierarchical groups display the same values regarding all six categories of information cannot be confirmed. This means that the three groups of managers do indeed tend to reflect differences in their perception of the relative importance of various informational elements. However, marketing variables do not play an important role in the differences in perception. (This is confirmed by a univariate F test on the marketing variable alone.)

TABLE 3  
HIERARCHICAL LEVELS MEANS AND (STANDARD DEVIATIONS)  
(N = 54)

Variables	Top (n=16)	Middle (n=21)	Lower (n=17)
Economic/ legal	3.91 (.73)	3.29 (.86)	2.50 (.81)
Financial	3.94 (.75)	3.74 (.84)	3.22 (1.27)
Marketing	3.24 (.98)	3.26 (1.23)	3.11 (1.37)
Political	4.42 (.35)	2.71 (.79)	2.01 (.41)
Social	3.16 (1.00)	3.11 (.92)	2.07 (.94)
Technical/ engineering	3.13 (.99)	2.90 (1.06)	2.98 (1.37)
Discriminant Function =	.348E1 + .378F + .129M + .900P + .392S + .055Te (A = .899, P < .001)		

where E1=Economic legal; F=Finance, M=Marketing; P=Political; S=Social, Te=Technical/engineering

ANALYSIS BY FUNCTIONAL AREA

Table 4 shows similar data on Table 3 as arrayed by the functional assignment of the respondent. The discriminant function is again significant, thus indicating a difference in the perceptions of these groups. However, the functional analysis shows marketing information to be of second importance to technical and engineering information in discriminating among functional groupings. What is striking in these results is the degree of parochialism displayed by the various functional groups regarding "their" information-marketing people regard marketing information as most significant, while technical people see technical information as most important and financial people see financial data as being of greatest significance.

TABLE 4  
FUNCTIONAL AREAS MEANS AND (STANDARD DEVIATIONS)  
(N = 54)

Variable	Marketing (n=10)	Financial (n=10)	Planning (n=15)
Economic/ legal	3.13 (.96)	2.94 (1.17)	3.78 (.83)
Financial	3.19 (.99)	4.56 (.39)	3.74 (.61)
Marketing	4.38 (.68)	2.90 (1.27)	3.49 (.87)
Political	2.86 (1.17)	2.31 (.91)	2.68 (.88)
Social	3.24 (1.04)	1.81 (.48)	2.83 (.98)
Technical/ engineering	2.39 (.48)	2.06 (.44)	2.71 (.96)
		Engineering (n=12)	Production (n=7)
Economic/ legal		2.87 (.71)	3.27 (1.13)
Financial		2.83 (1.07)	4.13 (.88)
Marketing		2.43 (1.11)	2.66 (1.02)
Political		2.18 (.46)	4.13 (.95)
Social		2.93 (1.16)	3.28 (.99)
Technical/ engineering		4.10 (.99)	3.89 (.94)
Discriminant Function =	.168E1 - .282F + .697M + .231P + .121S - .885Te (A = .783, P < .001)		

ANALYSIS BY PRODUCT GROUP

Table 5 shows similar data arrayed by product group. The MNC in this study has three distinct product lines--energy products, heavy industrial products, and consumer products. Each group has its own president who reports to the corporate chairman. Included in this product line group analysis consists of four product groups.

One of the most striking findings revealed here is that despite the fact that each product group (except Management

Service) has its own marketing department and carries its own marketing programs, the Marketing variable is regarded as the least important. This view is consistent with managers in all four product groups as verified by the result of the univariate F test.

TABLE 5  
PRODUCT GROUPS MEANS AND (STANDARD DEVIATIONS)  
(N = 54)

Variable	Energy Product	Industry Product
Economic/legal	3.11 (.71)	3.65 (.87)
Financial	3.07 (1.23)	3.24 (1.16)
Marketing	2.95 (1.19)	3.77 (.98)
Political	2.62 (1.05)	3.99 (1.01)
Social	3.56 (1.13)	3.13 (1.19)
Technical/ engineering	3.64 (1.05)	3.55 (1.18)
	Consumer Product	Management Service
Economic/legal	2.54 (.77)	3.45 (1.06)
Financial	3.58 (.92)	4.05 (.69)
Marketing	2.95 (1.49)	3.24 (1.09)
Political	2.33 (.77)	3.15 (1.11)
Social	3.18 (1.11)	2.39 (.87)
Technical/ engineering	3.18 (1.29)	2.43 (.81)
Discriminant Function =	.385E1 + .195F - .002M + .552P - .691S - .54Te (A = .653, P < .001)	

ANALYSIS BY LINE AND STAFF

A discriminant function based on line versus staff groupings also was significant (Lambda = 0.657) which is significant at p > .001. Again the marketing variable was the least important in the discrimination. The most important variables in the analysis based on this dichotomous grouping were the "technical and engineering" category.

ANALYSES ON BASIS OF MANAGERS'  
PERSONAL EXPERIENCE AND BACKGROUND

Similar analyses were conducted using the three elements of managers' personal experience and background--overseas residence assignment, overseas business trips and length of service. Although all respondents for this study are directly involved in international operations, some managers (33 out of 54 respondents) had no overseas business trip. With this information, several questions are posed. Do different personal experiences have any bearing on the determination of the relative importance of environmental variables for international business decisions? To what extent do MNC managers with different experiences perceive the Marketing variable as important? Is there any significant difference among managers with different experiences with respect to the Marketing information?

Again, the results were surprising with regard to the importance of marketing information. Managers with different experience bases tend to perceive uniformly relative low importance to marketing information as compared with financial and economic/legal information. This is shown by the three discriminant functions which are summarized in Table 6.

TABLE 6  
DISCRIMINANT FUNCTION COEFFICIENTS  
FOR GROUPINGS BASED ON EXPERIENCE

- Overseas Residence Assignment Experiences  
 $D_5 = .127E1 - .401F + .072M + .066P + .968S - .040Te$   
(A = .745, P < .001)
- Overseas Business Trips (9n number)  
 $D_6 = .601E1 - .070F + .037M + .626P + .568S + .048Te$   
(A = .694, P < .002)
- Length of Services (in years)  
 $D_7 = .377E1 - .310F + .131M + .635P - .005S + .389Te$

### CONCLUSIONS

The results of this study are in striking contrast to those of previous studies which have tended to demonstrate the great importance of marketing information to management. They also contrast sharply with the generally accepted marketing wisdom that sees marketing information as crucial to the successful management of multi-national corporations. The perceptions of managers in the one large MNC studied suggest a relative de-emphasis of marketing information and a relatively greater emphasis on political and economic/legal information.

This de-emphasis is consistent throughout all management levels; product groups, and personal backgrounds and for both line and staff people. The only significant departure from this lack of emphasis of marketing information was in the analysis by function which showed a great degree of parochialism on the part of marketing managers as well as other functional managers.

These results are particularly significant since all of these groupings of the respondent managers did result in significant differences with regard to the overall perceived importance of various kinds of information. Marketing information simply played a relatively minor part in these differences.

It is certainly possible that the product lines of the MNC -- which tend toward high technology - high cost capital goods -- or some other unique characteristics serve to explain these results. However, the potential implications of these results to management and to the field of marketing are great. Is there, in fact, a tendency for MNC's to make decisions less on the basis of marketing information than is the case in other environments? What will the impact of this be on decisions and on the field called international marketing? Will there be less emphasis on the development of marketing information systems in these environments than there is domestically? The expanding importance of MNCs suggests that it is important to marketing that these questions be answered.

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