

THE RELATIONSHIP BETWEEN PLANNING AND INFORMATION SOURCE/MEDIA USED BY SMALL FIRMS

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ABSTRACT

The objective of this study was to examine information sources/media used by small business managers and their relationships to the planning process, entrepreneurial intensity and firm performance. A significant positive relationship between information source/media used and planning process sophistication was found among 165 small business managers by means of semi-structured, in-depth interviews. In addition, high-performing companies revealed different information sources/media than low-performing companies. Finally, no relationship was found between entrepreneurial intensity and information sources/media used. Implications for future research and small business managers are presented.

INTRODUCTION

An argument can be made that the development of strategy is quite different in the small firm than in the large firm (Robinson, 1982; Welsh & White, 1981). A distinction between small firms and large organizations is that large firms generally have functional specialists. One department may be responsible for production planning, another for marketing research and so forth. In addition, many large firms may even have a specialized planning department. In the small firm, however, a general manager may be responsible for each of these activities concurrently. As a result of this difference, the manager in the small firm plays the role of a general manager that is quite unlike that of the top executive in the large firm. Aguilar (1988), Kotter (1982), and Drucker (1973) have all emphasized the unique nature of the general manager's position.

As each of these authors highlights the variance among managers in different types of firms, the researcher emphasizes differences in the sources and uses of information as well. Two themes that can be detected in each of these author's writings are: (1) small business managers are highly reliant on information obtained from diverse sources/media and (2) planning is part and parcel of the small business manager's position.

Several streams of literature support the contention that information sources/media vary as a function of organizational differences. In one stream, Tushman and Nadler (1978) present a contingency approach to organizational design and information processing. According to these authors, size is an important variable on which information needs are

dependent. They state that as organizations grow, they differentiate and develop economies of scale and benefits of specialization and each subunit has unique information needs. This approach is supported by the work of Daft and Weick (1984) in which they state that organizational differences are related to the manner in which information is obtained and used. Related to this is the research that indicates internal managerial communication patterns vary as a function of the type of organization (Luthans, Rosenkrantz, & Hennessey, 1985; Smeltzer & Fann, 1989).

A second stream of literature investigates the organization's interaction with its environment. This literature is particularly pertinent for this research because planning is the linking mechanism between the organization and the environment. In this stream of literature, both the open systems theory and the ecological theory posit that differing organizations have varying information requirements to adapt to their environments (Betton & Dess, 1985; Katz and Kahn, 1966). In addition, Daft and Lengel (1986) propose that information needs vary as equivocality and uncertainty increases. Large organizations generally have specialized buffering departments to reduce uncertainty. Small firms do not have these buffers; consequently, the managers must handle more environmental uncertainty.

Because of these differences, it is difficult to answer questions about managers' use of information sources/media without considering the nature of the organization. As is the case with most management literature, a greater amount of research on media has been conducted on these variables within large, rather than small organizations (Podsakoff and Dalton, 1987).

Managers use a variety of information sources/media to assist them in making decisions about their firms' future courses of action. What sources/media do small business managers use with respect to information acquisition? Do small business managers who are more sophisticated planners use different information sources/media than less sophisticated planners? Do small business managers of higher performing firms use different information sources/media than those of lower performing firms? The answers to these questions are important with respect to better understanding and responding to small business managers' information needs.

The attempts to answer these and related questions have generally focused on managers in large, formal organizations. This research in large organization has provided some valuable insights but limits the ability to generalize to managers in small firms. Small business managers may operate in significantly different environments than managers in large, formal organizations. Accordingly, the research reported here analyzes the sources/media used by managers in small firms. This research tests the general hypothesis that the relationship between planning and information sources/media used by small firms differs from that relationship in large firms. More specifically, this study focuses on small business managers' information sources/media used for one critical managerial activity--planning--and its impact on firm performance, as well as the impact of entrepreneurial intensity on information sources/media used.

PRIOR RESEARCH ON INFORMATION SOURCES AND USES OF INFORMATION BY MANAGERS IN LARGE FIRMS

A review of the small firm literature indicates a lack of research concerning the information sources/media used by small business managers. Consequently, the following literature review generally relies on research directed at information sources/media used by managers in large firms, however, it helps develop the foundation for the research questions analyzed in this study.

Manager's Search For Information: Media and Sources

Managers have limited cognitive capacities for information search; therefore, they regulate the amount and type of information they acquire. Scanning frequency is the number of times executive review or scan the environment directly or obtain information from others inside the organization (Daft, Sormenen, & Parks, 1988; Hambrick, 1981; Farh, Hoffman and Hegarty, 1984). Previous research indicates that senior executives scanning frequency varies and that they use different information sources/media. Sources are classified as either external or internal to the organization (Aguilar, 1988; Rhyne, 1985; Keegan, 1974). Media refers to channel selected to transfer the information, such as personal (e.g. face-to-face interaction) or written (e.g. memo, report) (Rice, 1992).

Planning Sophistication

Managers must process information to identify opportunities, detect and interpret problem areas and implement strategic adaptations (Jemison, 1984; Tushman, 1977). Scanning provides information that policy-makers use in planning decision-making and strategy formation (Hofer and Schendel, 1978; Rhyne, 1985). Fahey and Narayanan (1986) state that information should facilitate and foster strategic thinking in organizations. Consequently, it would seem logical to argue the reciprocal: strategic thinking should foster acquisition of information.

Planning sophistication varies among managers (Ansoff, 1979; Miles, Snow & Pfeffer, 1974). Lorange and Vancil (1976) explained an evolutionary development of planning systems within organizations. They proposed that as the planning effort matured, the characteristics of that effort would shift, reflecting the management's increased familiarity with the planning process. Higgins (1981) noted that 'mature' planning systems addressed different problems in comparison with recently introduced systems.

A few empirical studies have investigated the relationship of information sources to levels of planning sophistication. One of the problems is that researchers have generally failed to conceptualize and operationalize strategic planning practices. This is especially true for smaller firms--the focus of this study (Keats & Bracker, 1988). However, recent studies have begun to make progress in this area (Bracker & Pearson, 1986; Ramanijam, Venkatraman & Camillus, 1986). Because of the apparent relationships between planning and information and the recent efforts to operationalize the strategic planning process, the following research question is presented.

RESEARCH QUESTION 1:

As planning sophistication increases, does the frequency of information sources/media used increase?

Level of Entrepreneurship

Information sources used for planning may differ between CEOs in large firms and managers in small firms; however, differences may also exist among small business managers. In particular, some managers are oriented toward maintenance of the organization and stress administrative competence and caretaking. Meanwhile, others are more opportunistic or entrepreneurial (Pinchot, 1985). There has been considerable interest in the ability to identify managerial traits and characteristics to determine how those who are more entrepreneurial differ from those who are caretakers. Various writers have offered such traits as judgment, ambition, need for achievement and locus of control (Keats & Bracker, 1988).

The extant research indicates that differences exist between the entrepreneurial manager and the administrative caretaker. Meanwhile, differences in information use among individuals with different managerial orientation have not been well defined (Martin and Martin, 1989; Wortman, 1987). It would seem that a caretaker would seek less information than an opportunist. Shafer (1990) confirmed this in small service businesses, (physical therapists), however, it is not known if this relationship holds true in other types of small businesses. Consequently, a second question is presented.

RESEARCH QUESTION 2:

Do small business managers with an entrepreneurial/opportunistic orientation use more information sources/media for planning than a caretaker-type manager?

Organizational Performance and Sources of Information

With reference to organizational strategy research, Hambrick (1980) and Lenz (1981) have argued that the most obvious and useful research questions should address the factors and linkages that influence performance. Information acquisition cannot be directly related to performance because performance is attributable to numerous factors (Kanter & Brinkerhoff, 1981; Hambrick, 1983; White & Hamermesh, 1981); however, a comparison of high- and low-performing firms may indicate a pattern of information acquisition that is consistent with high-performing firms. Therefore, the following research question is presented.

RESEARCH QUESTION 3:

Does the relationship between planning sophistication and the small business manager's use of information sources/media for planning have a greater correlation for high-performing companies than for low-performing companies?

In summary, this research is investigating if small business managers' use of information sources/media for planning will vary based on planning sophistication and entrepreneurial intensity. Additionally, will high-performing companies use more information sources/media than low-performing companies?

Research Methods

Quantitative and qualitative information concerning the five research questions was collected from 165 general managers of small firms in a southwest and a midwest metropolitan area.

Sample

The criteria for firms to be included in the sample was:

- less than 50 employees
- less than \$1 million annual revenues

Also to reduce within group variance, only service or retail firms were included. The general manager of each firm also met these criteria:

- at least 51 percent ownership in the firm
- full-time management of the firm
- owner of an independent firm, not a franchise
- individually responsible for the planning process of the business

In both metropolitan areas a random sample that met the criteria was drawn from local telephone books. Firms that did not meet the sample criteria after selected from the telephone books were omitted. Such a sample may be considered a convenience sample and the true randomness could be questioned. But we are confident the sample generally represents the universe identified for this study as the objective was to analyze a sample of small business managers. After omitting firms that did not meet sample criteria, the average age of the firms in this study was 11 years. The average revenue per year was \$300,000. The average number of employees was eight.

Research Design

The first step was to develop an interview protocol. A pilot study of 26 small business general managers was used to develop an interview protocol or format that contained quantifiable measures and possessed construct and content validity as well as reliability. A group of three researchers experienced in qualitative research worked together to assure the interview results were reliable. Construct validity was achieved by developing the interview format with the assistance of researchers doing similar research. Content validity was assured by thoroughly discussing the interview format and explaining the research questions and rationale with two of the general managers who were involved in the pilot study.

According to Fielding and Fielding (1986), "Qualitative work can assist quantitative work in providing theoretical framework, validating survey data, interpreting statistical descriptions and describing puzzling responses" (p. 27). Qualitative assessment is largely the product of the interaction of the judge with the phenomenon. Validity lies in the qualification of the judges (Huberman and Miles, 1994). The judges in this study had extensive experience in qualitative assessments. They had received specialized training, published research and taught courses on qualitative research procedures. The qualitative data gave meaning to the responses, aided in validating the quantitative data, and allowed for exploration for future research.

Personal interviews of 165 small business general managers were conducted to collect the data. This approach was used because personal interviews are advantageous for handling complex questions, collecting large amounts of data and obtaining in-depth information (Tull & Hawkins, 1980, p. 131). The questions posed to the general managers were considered complex and required explanation.

Each interview lasted from one to two hours. Initially, the general managers were asked to explain how the business was started and why they went into their business. After a positive rapport was established, a semi-structured format approach was used to assure all the specific questions for this study were addressed. The interviewers consisted of three experienced interviewers who had specialized training in research interviews. As mentioned when discussing the pilot study, the initial interviews were conducted in teams to assure reliability and validity in data interpretation.

Measurements

The researchers used the four measurements discussed next. In each case the research showed the scale to the small business manager and explained the variables involved. In other words, self-ratings were used but the researcher thoroughly explained the measurements to the managers to avoid ambiguity.

Information sources/media were measured by asking the owners to indicate the extent to which they used the following sources/media of information for planning:

written external sources	including trade magazines, local or national newspapers, newsletters, information services,
written internal sources	including special studies, reports, memos, management information services,
personal external contacts	including business associates, officials, customers, friends, family,
personal internal contacts	including salespeople, staff, and other subordinates.

These measures are similar to those developed by Hambrick (1982) and Culnan (1983) and validated by Farh, Hoffman and Hegarty (1984).

A sample of the rating scale format is presented in Figure 1.

FIGURE 1
RATING SCALE

PERSONNEL INTERNAL CONTACTS (Subordinates, salespeople, staff people).				
DAILY	WEEKLY	MONTHLY	FEW TIMES A YR	LESS THAN ONCE A YR
5	4	3	2	1

Level of planning sophistication was measured by an adaption of the rating established by Bracker and Pearson (1986). The pilot study of 26 managers indicated the scale had to be adapted because it was difficult to definitively differentiate between levels of structured strategic, operational and intuitive plans. As a result, strategic planning was deleted from the scale for this study while measurements of operational planning were developed more extensively. This was similar to other studies that found it difficult to operationalize structured strategic planning for small firms (Shrader, Mulford and Blackburn, 1989; Watts and Ormsby, 1990).

The final version of the scale, like Bracker and Pearson's (1986), was based on a content analysis of the literature addressing small business planning practices. Eight distinct components emerged from the literature review: objective setting; environmental analysis; strengths, weaknesses, opportunities and threats analysis; strategy formulation; financial projections; functional budgets; operating performance measures; and control and corrective procedures. Based on these eight components, a seven-point scale of planning sophistication was developed (See Figure 2).

Evidence such as budgets and interview comments were used to determine the manager's level of planning sophistication as measured by the scale.

The firm's financial performance was determined by asking the owner for the projected revenues over the next two years and percentage of revenue growth over the past three-year period. In total, the growth covered five years: the aggregate of the past three years and projections over the next two years. Most of the firms in this study were privately-held firms, so profitability data were not publicly available. Although self-report is by no means a perfect measure, Dess and Robinson (1984) found that where objective, public data were not available, self-reports by managers were very reliable.

Level of Entrepreneurship was determined by asking how the firm was established and its goals at the time. The extent to which managers are entrepreneurial or administrative has been

FIGURE 2
LEVEL OF PLANNING SOPHISTICATION

HI	7	Written short range operational budgets. Plan for current fiscal period. Extensive cash-rolling budgets.
	6	Inventory analysis beyond several months. P & L or cash flow analysis quarterly. More sophisticated budgets.
	5	
	4	Monthly or quarterly output quotes. Monthly expense projections. Inventory analysis budgets accounting reports monthly. Basic P & L analysis.
	3	
	2	Scheduling of personnel and inventory needs for periods of less than a month.
LOW	1	No measurable structured planning in the firm. Seem to think from day-to-day only.

categorized in many ways. Managers have been classified as "craftsman entrepreneurs" or "opportunistic entrepreneurs" (Smith, 1967; Smith and Miner, 1983), as craft promotion, or administrative types (Filley and Aldag, 1978) and as "caretakers" and "managers" (Braden, 1977). In an attempt to operationalize entrepreneurial intensity, Braden (1977) used four questions and Filley and Aldag (1978) used 10 questions. Meanwhile, Covin and Slevn (1986) used three classifications as did Shafer (1990). These various categories made it difficult to use a universally accepted operational definition for levels of entrepreneurship.

During the pilot study, it was found that the interviewees most easily related to a classification system developed by Cooper and Dunkelberg (1986). They drew from the extant literature to develop four categories of entrepreneurial intensity: 1) starters, 2) purchasers, 3) inventors and 4) those promoted or brought in. In this categorization system, one is the highest level of entrepreneurship while four is the lowest. In terms of Research

Question 2, the entrepreneurial manager would be a 1--starter--while the 4 would be a caretaker. The researchers were able to reach agreement during the pilot study on the placement of the small business managers in one of these four categories, therefore, these four classifications were used to classify entrepreneurial intensity for the present research.

RESULTS

The means and standard deviations for frequency of information sources/media used by the managers are presented in Table 1. Personal internal information is used most frequently, and written internal is used least frequently.

TABLE 1

MEANS AND STANDARD DEVIATIONS OF INFORMATION SOURCES/MEDIA USED FOR PLANNING

Information Sources/Media	Means	St. Dev.
Written External	2.23	.83
Written Internal	2.17	1.09
Personal External	2.63	1.07
Personal Internal	2.86	1.28
All Written	2.18	.79
All Personal	2.74	1.04
All Internal	2.51	1.00
All External	2.43	.78

1 = Infrequent Use

5 = Frequent Use

The first research question stated: As planning sophistication increases, does the frequency of information sources/media used increase? The correlation coefficients between planning sophistication and information sources/media used by managers are presented in Table 2. All correlations are positive and statistically significant at the .001 level. This indicates that small businesses who conduct more sophisticated planning use both internal and external information sources/media more frequently.

The second research question asked: Do small business managers with an entrepreneurial/ opportunistic orientation use more information sources/media for planning than a caretaker-type manager? An ANOVA of information sources/media by entrepreneurial intensity revealed no significant differences.

TABLE 2
**CORRELATION ANALYSIS BETWEEN LEVEL OF PLANNING
 AND INFORMATION SOURCES/MEDIA USED FOR PLANNING**

Information Sources/Media	
Written External	.3353***
Written Internal	.3632***
Personal External	.2025***
Personal Internal	.2966***
All Written	.4246***
All Personal	.2840***
All Internal	.3912***
All External	.3197**
All Sources	.4044***

*** p < .001

The last research question asked: Does the relationship between planning sophistication and the small business manager's use of information sources/media for planning have a greater correlation for high-performing companies than for low-performing companies? High performing companies were selected by determining the median performance measure and assigning those above the median to the high-performing group and those below to the low-performing group. A comparison of the correlations is presented in Table 3. Most correlations are greater for the high-performing companies and four correlations are significant. They are: (1) written external, (2) written internal, (3) all written and (4) all internal. Interestingly, no correlations were significant in the low-performing companies.

SUMMARY AND DISCUSSION

This study examined information sources/media used by small business managers and their relationship to the planning process, entrepreneurial intensity and firm performance.

Overall, personal sources of information, both external and internal, were used more frequently than written sources of information. This finding is supported by a number of studies both in large and small firms that have found top-level managers' preference for informal, human sources of information (Hambrick, 1981; Johnson & Kuehn, 1987; Mintzberg, 1973; Smeltzer, Fann & Nikolaisen, 1988).

TABLE 3

**CORRELATIONS BETWEEN PLANNING SOPHISTICATION AND
INFORMATION SOURCES/MEDIA USED FOR PLANNING BY HIGH-
AND LOW-PERFORMING COMPANIES**

Information Sources/Media	High-Performing (n=53)	Low-Performing (n=47)
Written External	.362*	.178
Written Internal	.359*	.210
Personal External	.075	.133
Personal Internal	.269	.212
All Written	.438**	.251
All Personal	.203	.214
All Internal	.396*	.246
All External	.252	.198

*p < .05

**p < .01

The primary finding in this study was the positive relationship between planning sophistication, firm performance, and information sources/media used for planning. This sample of small businesses used all sources/media of information more frequently as the level of planning sophistication and performance increased. This finding is supported by Rhyne's (1985) study of managers in large organizations. In general, these two findings indicate no differences exist between managers in large and small firms in the relationship between information/media use and planning.

However, unlike Rhyne's study that found a strong relationship between planning sophistication and external and informal (personal) sources, this study revealed that internal and written sources of information related most strongly to the level of planning sophistication. This is a distinct difference from the results in other studies involving managers in large firms. Several reasons may exist for these differences. Rhyne examined large public manufacturing firms from the Fortune 1000 list. We suggest that large firms have special staffs for planning and for scanning, whereas in all probability our research sample--small business managers--did most if not all planning and scanning themselves. In addition, they engaged in operational planning, not strategic planning.

Several studies (Aguilar, 1967; Daft, Sormunen, & Parks, 1988; Keegan, 1974; Rhyne, 1985) reveal that even if sophisticated MIS systems and formal information services are available,

top-level managers use personal, external sources of information. Another finding of this study is that as general managers of high-performing companies increase their level of planning sophistication, they tend to seek more written sources of information than those general managers of low-performing companies. This may mean that these general managers are using more formal information systems to supplement their informal information systems for the planning process.

Finally, no significant relationship existed between level of entrepreneurial intensity and information sources/media used for planning. Entrepreneurial intensity is difficult to measure, so perhaps more sensitive measures techniques need to be used to gain further insight into the possible relationship between these variables. In addition, more consistent use of operational definitions may be helpful. We believe more work is needed by small business scholars to develop a universally accepted operational definition of entrepreneurial intensity.

A limitation of this study is the self reported behavior of managers. To overcome this limitation, trained observers could monitor managerial behavior through a period of time. However, Tomlinson (1987) noted a variety of hurdles to observation in organizational studies including: (a) physical or space barriers, (b) time barriers, and (c) the effect of the researcher on normal behaviors. An additional problem when dealing with information sources is that it is a cognitive process, it cannot be observed. To overcome this problem, cognitive mapping has received extensive use as a research tool in recent years. But Aldag and Stearns (1988) state, cognitive mapping also has limitations. It relies on the respondent's self insight and may be influenced by rationalization, social desirability and other contaminants. Aldag and Stearns (1988) also state that it seems unlikely that any foreseeable technique will overcome all the limitations associated with currently available methods. This may be why self report by managers remains a viable and popular research procedure.

The difference between the research reported here and that of Daft et al (1988) and Rhyne (1985) may largely be attributed to differences between large and small firms. The present research leads to the conclusion that much more research should be conducted with managers who operate within different contexts. This is consistent with the conclusion of Huff and Reger (1987) when they state that an important area for future strategic process research is to consider the organizational and environmental context. Not until much more is known about the affects of organizational differences will it be possible to develop a comprehensive theory of managers' acquisition of information.

In addition to organizational differences, task differences must also be analyzed. Does a significant difference exist between operational and strategic planning processes in relation to information acquisition? This question relates to Saunders and Jones' (1990) suggestion to examine various information sources and media for different decision processes. Information acquisition patterns may vary depending on the type of decision, and various sources and media may be more appropriate at different points in the strategic decision-making process. However, information acquisition is a difficult process to analyze. It may be necessary to investigate concepts and research from related areas--another recommended direction for research presented by Huff and Reger (1987). For instance, it may be valuable

to investigate information sources and media from a perspective of organizational learning. Organizational learning typically involves data collection about the environment through scanning (Daft & Weick, 1984). Shrivastava (1983) developed a topology of systems for organizational learning in which information acquisition is a key aspect. Much may be learned within the context of organizational learning that could be applied to what we currently know about small business managers' information acquisition.

A critique of this research and discussion may be that it takes a limited functionalist viewpoint. That is, the social reality of information sources is viewed as objective and orderly. The phenomena is treated as a concrete, materialistic entity. It may be more fruitful if subsequent research took less of a positivism orientation and more of a social construction perspective (Fulk, 1993). A need exists to study information sources in planning as a set of symbols. We recommend future research integrate both a functional and a social construction theoretical perspective.

IMPLICATIONS FOR ENTREPRENEURS

One of this studies' major findings relevant to government officials and the Small Business Administration (SBA) is that a broad sample of small business managers does not utilize written information. However, most government assistance with respect to managerial action is in the form of written communication. Even the various business information centers, bulletin boards and networks provide information in the written format. The results indicate that many small business managers may receive this written information; however, its impact may be minimized by their failure to read or even ignore the information. The belief that personal information is richer, more reliable, and produces greater results with less effort may be why small business managers fail to fully use written information.

This study suggests that there should be a careful evaluation of the type of information (written/personal) provided by governmental agencies to small business. An agency's review of media use may have a positive impact on the implementation of government programs, consulting and assistance provided to small business managers.

But what is a government agency to do? It would be ludicrous to think that the SBA could disseminate information personally. However, the use of strictly written media techniques does not appear to be the best strategy. A difficult dilemma exists. Two recommendations emerge. First, agencies should not be overly optimistic that written messages will be highly effective or efficient. This limitation leads to the second recommendation. As new technologies develop, strategies for using these innovations must be considered.

One innovation that probably should be considered is the possible use of INTERNET. Because this technology is advancing so rapidly, it is difficult to determine all of its possible applications and limitations at this time. Another possibility might be the use of educational television. As more wide range cable networks develop, new video alternatives for information dissemination may emerge.

The results also highlight the possible need of small business managers to be more aware of the contribution written information may have on the management and performance of their businesses. It appears likely that at some time in the life of the small business, the need for written information becomes a necessity. Those managers who cannot learn to use written information to the firm's advantage may fail to make the transition from managers of small entrepreneurial firms to a larger, more traditional, business organizations. Additional research on information use may be a fruitful avenue that sheds light on the reason some entrepreneurs can manage their firms throughout their life cycle while others falter from one organizational stage to the next.

Another important finding with respect to the entrepreneur was the relationship between greater information acquisition and planning sophistication. The link between small business planning sophistication and enhanced firm performance appears to be fairly well established (Schwenk and Shrader, 1993). Thus, the acquisition of information in general has important consequences for the small business managers with respect to the management and performance of their firms. Information is one of the most valuable resources a firm possesses.

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