

**INDUSTRIAL FIRMS
&
THE POWER OF MISSION**

by

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Industrial Firms & the Power of Mission

ABSTRACT

This article presents findings from some research which examined and analyzed the content of industrial firm mission statements. In particular, the mission statements of industrial firms were compared with those from consumer goods organizations to determine if there were any significant differences. The specific components of industrial firm mission statements were also analyzed to determine if there were any which “made a difference” in terms of firm performance. The findings suggest that some mission components seem to matter more than others and it is these to which managers of industrial firms should pay especially close attention.

Industrial Firms & the Power of Mission

The mission statement is a document central to every firm's strategy. In its most basic form, a mission statement is intended to capture an organization's unique purpose and practices (Bart and Baetz, 1995; Bart, 1996a and 1996b; Byers, 1984 and 1987; Campbell, 1989 & 1993; Campbell & Yeung, 1991; Germaine and Cooper, 1990; Ireland & Hitt, 1992; Klemm, Sanderson & Luftman, 1991; McGinnis, 1981; Medley, 1992; Went, 1986). As a formal document, the mission statement should answer some fairly basic, yet vitally important, questions, such as: Why do we exist? What are we here for? What are we trying to accomplish.

However, mission statements appear to be the one item which has received only cursory attention in most formal studies of organizational strategies and the strategic planning process. This is surprising since it is almost impossible to read a current management text without some reference extolling the virtues of having a well-articulated mission statement. Indeed, the mission statement is generally viewed as *the* starting point in most of the recent discussions surrounding such hot topics as re-engineering, total quality management and self-directed work teams.

Creating winning mission statements (i.e. mission statements that make a difference), however, has proven to be an elusive pursuit for many firms. And nowhere has this been more true than in the case of industrial firms. This is because there are currently no guidelines on what the mission statement of an industrial firm should contain. We do not know whether or not they should differ significantly from those of non-industrial organizations. And, there is no evidence to suggest that mission statements make a difference in terms of an industrial firm's performance. As a result, the formulation and implementation of company mission statements are presently reliant upon varied and confused speculation by most company managers..

This article, therefore, is specifically concerned with helping to correct, at least partially, for this anomaly (a) by identifying those variable components which make up the mission statements of industrial firms; (b) by determining their uniqueness; and (c) by assessing their impact on organizational performance.

Theoretical Background

Mission Statement Content. Most of the previous writings on mission statements has been devoted to analyzing their content and characteristics. Drucker (1973) appears to be one of the first to offer any specificity as to its meaning when he claimed that defining a firm's mission was determined by answering the question "what is our business and what should it be"? Since then, a limited number of other empirical researchers have ventured forth to survey companies in order to determine (largely through frequency analysis) what the principal components of their mission statements are. For instance, after reviewing 75 mission statements from a survey of Business Week 1000 firms, David (1989) identified nine mission

components. The mission components included: customers, products or services, location, technology, concern for survival, philosophy, self concept, public image and concern for employees. Similarly, Klemm et al. (1991) surveyed 59 U.K. firms and classified their mission statements into four categories, namely: purpose ("a statement of the long term purpose of the organization reflecting deeply held views"), strategic objectives ("a statement of long term strategic objectives outlining desired direction and performance in broad terms"), quantified planning targets ("objectives in the form of quantified planning targets over a specified period") and the business definition ("a statement outlining the scope and activities of the company in terms of industry and geographical spread").

In an even earlier study, Want (1986) claimed that the primary components of mission were: purpose, principle business aims, corporate identity, policies of the company and values. More recently, however, Bart (1996a) found that in a survey of mission statements from 75 Canadian industrial and advanced technology companies, the notion of articulating "specific behavior standards" was another important component to be added to the list of mission dimensions (at least insofar as innovative organizations were concerned).

In reviewing these prior studies, however, two observations stand out in particular. One is that considerable diversity appears to exist regarding the composition of actual mission statements and academics' pronouncements concerning their theoretical ideal. The major reason for this is that each researcher has seen fit to create a new typology of mission statement components when conducting his or her study rather than building on previous findings. Another, more important observation, however, is that there is a noticeable lack of empirically-based prescriptions in the literature in terms of what mission statements should or should not include i.e. amount of detail, type of goals, stakeholder groups, statement of values/philosophies, business definition, identification of customers/customer groups, etc.!

Mission statements & performance. One significant reason for this lack of mission prescriptions appears to be the fact that most studies have either neglected or been unable to link the specific content and component parts (or characteristics) of their observed mission statements with various indicators of firm performance, such as, sales, profits, return, growth or employee behavior impact. Instead, these previous studies have tended to concentrate on reporting only the frequency results associated with their observed mission categories.

Interestingly, there have been several limited attempts made at linking firm performance with the a company's *overall* mission statement. The results, however, have mostly been not significant (Coats, 1991; David, 1989; Klemm et al., 1991; Wilson, 1992). For instance, Klemm et al. (1991) found no significant difference in performance (measured in terms of employee turnover and profits) when comparing firms that had mission statements with those that did not. Similarly, David (1989) could also find no link between mission and performance (measured as gross earnings, ROI and EPS) when comparing 75 firms with mission statements and 106 firms without. When performance was measured in terms of a mission's impact on employee behavior, however, Bart (1996a and 1996b) appears to have

found a strong positive relationship between "selected behavior standards" (which are mentioned in a firm's mission statement) and the actual practice of those behaviors. Nevertheless, as with the other studies, Bart could find no linkage between mission statements and various selected financial measures.

Thus, there is very little prescriptive evidence suggesting what mission statements should or should not include. As a result, we do not know whether the inclusion of some components in a firm's mission statement makes a difference in terms of organizational performance or not. However, if academics and consultants are to continue promoting the usefulness of mission statements (and if corporations are to embrace their use), we need more direct evidence in support of the positive performance impact of mission statements. Hence, the primary rationale for the current research undertaking.

Mission statement drivers. Over the years, numerous reasons have been proffered by various writers on the rationale for having a mission statement in the first place. Two of the most commonly cited "drivers" (Bart, 1996b) are (i) better staff motivation and control and (ii) more effective resource allocation. To date, only Bart (1996b) has investigated the impact of these drivers on firm performance - but only in the case of high-tech organizations. Thus, it is currently unknown (a) what the primary driver rationales of industrial firms are in creating their mission statements; and (b) to what extent using a mission statement based on one rationale may be more or less important to industrial firm success than another.

Research Questions

It is generally recognized today that industrial firms are different, in significant ways, from many other types of organizations. Even a rudimentary grasp of the fundamentals of strategy would confirm this i.e., industrial firms serve different types of customers in different ways. Because of this, much of the study of industrial firms has focussed on identifying their unique needs and confirmed their differences in relation to other company categorizations (e.g., non-industrial, service, consumer goods, etc.).

Unfortunately, virtually all of the previous research on mission statements has been conducted without particular reference to the type or category of firms. There have been, to date, no studies which have specifically looked at the content and characteristics of mission statements in industrial organizations. Yet, our general case observations regarding the lack of both a mission framework and mission prescriptions would appear to be just as relevant in the specific case of industrial firms. In other words, managers in industrial firms have no guidelines as to what their mission statements should look like and if there are any features which are unique or important to their type of firm. However, given both the importance of industrial firms (for economic prosperity) and mission statements (for strategic direction), we decided to address these empirical shortcomings directly. The research, in particular, was

designed to answer several specific questions:

- * What are the specific content characteristics of mission statements in industrial firms? What do mission statements in industrial firms look like?
- * Are the mission statements of industrial firms significantly different from the mission statements of non-industrial firms? (And, if so, in what way specifically?)
- * What should the mission statements of industrial firms include? Does the specific inclusion of any one particular mission component identified make a difference in terms of firm performance?
- * What are the primary "drivers" (or rationales) behind the creation of mission statements in industrial firms and how do they impact firm performance (again, if at all)?
- * Overall, how satisfied are managers in industrial forms with their firms' mission statements?

Research Method

Sample selection and size.

The current study involved a convenience sample of 76 CEOs and Presidents from 44 industrial and 32 consumer goods corporations for 1995. A summary of key operating and performance statistics is reported in Table 1. There appeared to be no industry bias.

The method of sample selection restricts the claims that might be made about the representativeness of the findings for industrial and consumer goods firms in general. By North American standards, however, all of the firms surveyed would be viewed as large and important corporations.

Operationalizing mission statement content and component characteristics.

For this study, the content and characteristics of mission statements were operationalized by reviewing the prior literature and selecting those components which others had indicated or inferred as possibly being part of a firm's mission. Twenty-five components were identified and included:

- * *organizational purpose or raison d'être* ("Why do we exist?") (Drucker, 1973; Want, 1986; Campbell and Yeung, 1991; McGinnis, 1981; Klemm et al., 1991; Ireland and Hitt, 1992)
- * *statement of values/beliefs/philosophy* (David, 1989; Want, 1986; Campbell and Yeung, 1991; Ireland and Hitt, 1992; Klemm et al., 1991)

- * *distinctive competence/strength of the organization* (Drucker, 1973; Campbell and Yeung, 1991)
- * *desired competitive position* (Drucker, 1973; Campbell and Yeung, 1991)
- * *competitive strategy* ("How we compete?") (Campbell and Yeung, 1991; Drucker, 1973; Ireland and Hitt, 1992);
- * *relevant/critical stakeholders identified* (Bates and Dillard, 1991; Collins and Porras, 1991; Daniel, 1992; Freeman, 1984; Medley, 1992; Oswald et al, 1994; Wilson, 1992);
- * *specific behavior standards and policies to be observed* (Campbell and Yeung, 1991; Want, 1986)
- * *statement of general corporate aims/goals* (Coats et al., 1991; Collins and Porras, 1991; Klemm et al, 1991; Want, 1986; Klemm et al., 1991);
- * *one clear and compelling goal* (Collins and Porras, 1991);
- * *specific financial performance targets/objectives* (Klemm et al, 1991; Ireland and Hitt, 1992);
- * *specific non-financial performance targets/objectives* (Ireland and Hitt, 1992; Coats et al., 1991; Collins and Porras, 1991; Klemm et al, 1991; Want, 1986; Klemm et al., 1991);
- * *definition of the business* ("What business are we in?" or a *very general* statement of products and customers) (Drucker, 1973; David, 1989)
- * *specific customers/markets served* (David, 1989; Ireland and Hitt, 1992)
- * *specific products/services offered* (David, 1989; Ireland and Hitt, 1992)
- * *statement of self-concept/identity* ("Who are we?") (David, 1989; Want, 1986)
- * *statement of desired public image* ("How do we want others to see us?") (David, 1989)
- * *identification of the business' location* (David, 1989);
- * *definition of technology* (David, 1989);
- * *concern for future/long-term survival* (David, 1989);
- * *concern for satisfying customers* (Want, 1986; Bates and Dillard, 1991; Collins and Porras, 1991; Daniel, 1992; Freeman, 1984; Medley, 1992; Oswald et al, 1994; Wilson, 1992)
- * *concern for employees and their welfare* (David, 1989; Want 1986; Bates and Dillard, 1991; Collins and Porras, 1991; Daniel, 1992; Freeman, 1984; Medley, 1992; Oswald et al, 1994; Wilson, 1992)
- * *concern for suppliers* (Want, 1986; Bates and Dillard, 1991; Collins and Porras, 1991; Daniel, 1992; Freeman, 1984; Medley, 1992; Oswald et al, 1994; Wilson, 1992)
- * *concern for society* (Want, 1986; Bates and Dillard, 1991; Collins and Porras, 1991; Daniel, 1992; Freeman, 1984; Medley, 1992; Oswald et al, 1994; Wilson, 1992)
- * *concern for shareholders* (Bates and Dillard, 1991; Collins and Porras, 1991; Daniel, 1992; Freeman, 1984; Medley, 1992; Oswald et al, 1994; Wilson, 1992)
- * *statement of vision* (Collins and Porras, 1991)

Cronbach's coefficient alpha for this mission content scale was 0.8000 - thereby indicating very high statistical reliability.

Operationalizing mission statement “drivers”.

Mission statement drivers (or “rationales”) have been defined as those forces motivating the development and use of a firm’s mission statement in the first place (Bart, 1996b). In reviewing the mission literature, numerous reasons have been given for having a mission statement. Those cited most frequently (Bart, 1996b) were adopted as the basis for operationalizing the mission statement drivers. They included:

- * to create a common purpose for the organization
- * to define the scope of the organization’s activities and operations
- * to allow the CEO to exert control over the organization
- * to create standards of performance for the organization
- * to help individuals identify with their organization, its aims and its purpose (and to encourage those who do not to leave)
- * to promote shared values among organizational members
- * to promote the interests of external stakeholders
- * to motivate and/or inspire organizational members
- * to help refocus organizational members during a crisis
- * to provide a sound basis for the allocation of organizational resources

Cronbach’s coefficient alpha for this mission drivers scale was 0.8298 - again indicating a very high level of statistical reliability.

Data collection.

Utilizing the list of mission content components and mission drivers identified above, a questionnaire was developed (and pretested with managers) which measured (a) the degree to which those mission characteristics were present in the firms’ actual mission statements and (b) the degree to which the various mission statement drivers formed a primary rationale in developing their statements. (Note: Although it is recognized that actual content of mission statements may vary significantly from managers’ perceptions, exploring such differences has been left to another study.)

The mission content components were then measured by asking managers to indicate, on a three point scale, the degree to which each component was part of the content of their firm’s formal written mission statement (0=not at all; 1=somewhat mentioned/included; 3=clearly specified). The managers were also asked to indicate, using a five point scale, the degree to which various mission statement drivers represented a major rationale in developing their statements (1=not a rationale/driver in developing the mission; 5=a primary driver in developing the mission). A five point scale was used to measure how satisfied managers were with their current mission statement (1=very dissatisfied; 5= very satisfied).

It is also important to note that few of the qualitative questions raised in this study have been asked in previous research - particularly with respect to industrial firms. Thus, our initial

attempts here should be considered as somewhat exploratory in nature.

Measures of performance.

To assess the relationship of a firm's mission with performance, we used five measures: four financial and one behavioral. The financial performance measures were: return on sales (McDougall et al, 1994; Brush and Vanderwerf, 1990); return on assets (David, 1989; Roth and Ricks, 1994); the percentage annual change in sales (McDougall et al, 1994; Roth and Ricks, 1994; Brush and Vanderwerf, 1990); and the percentage annual change in profits. They were selected on the basis that they are the ones to which analysts and managers pay most attention (Venkatraman, 1989). And, because it is important to control for industry differences, all of our financial measures were also (a) adjusted to take their relative industry standing into account (based on their Dunn and Bradstreet industry mean) and (b) averaged over a three year period (1992-1994) to compensate for any intra-industry fluctuations.

In terms of the behavioral performance measure, we developed a 10 point scale in which respondents were asked to indicate the degree to which they perceived their firm's mission statement to influence employee behavior (0= not at all; 9= to the greatest extent).

Data analysis

The frequency with which each mission statement component and mission driver was mentioned in the questionnaires was tabulated. Using a series of t-tests for independent means, we then compared (a) the mission statements' components between our sample of 44 industrial and 32 consumer goods firms; (b) the performance of our industrial firms based on *each* mission components (i.e., firm performance when a mission statement component was "clearly specified" versus "not clearly specified"); and (c) the performance of our industrial firms based on each mission statement driver (i.e., firm performance when a mission statement driver is "a primary rationale/driver" versus "not a primary rationale/driver").

The Findings

Mission Statements in Industrial Firms

Table 2 shows the frequency analysis for the 25 mission statement components. The results suggest that, among the industrial firms surveyed, there were 11 mission components being used to a fairly high degree. These high-use mission components were: purpose, values, distinctive competence, desired competitive position, identification of stakeholders, general corporate goals, one big goal, concern for customers, concern for employees, concern for shareholders and a statement of vision. Respondents indicated that these 11 mission components were mentioned in the "clearly specified" category in at least 47 percent of the

cases. Nine out of their 11 medians were 3.

Only one mission component - "competitive strategy" - received a high frequency score in the "somewhat specified" category with a frequency of 60.5 percent. There were, however, four mission components which distinguished themselves because of their *lack of mention* (i.e., specific financial objectives, location of the business, definition of technology and concern for survival). These four components were found to be "not mentioned" in at least 50 percent of the mission statements and their medians were the only ones less scoring "1". The remaining 9 mission components, on the other hand, were found to be fairly evenly spread among the three categories of usage.

Industrial versus Consumer Goods Mission Statements

The analysis of differences in mission statement components between industrial and consumer goods firms is displayed in Table 3. The results show that there were only five components where significant differences in usage occurred between industrial and consumer goods mission statements. The five categories were: definition of the business, desired public image, concern for survival, concern for employees and concern for shareholders. Of these, three components were found to have significantly greater use in the case of service firms (i.e. definition of the business, desired public image, concern for survival) and two were found to be significantly greater in the case of industrial firms (concern for employees and concern for shareholders). For the remaining 20 mission statement components, there were no significant differences in usage found between industrial and consumer good companies.

Mission Statement Components and Performance

The results of our analysis comparing the industrial firms' mission components with the five performance measures is displayed in Table 4. This table shows that there were 16 mission components in which performance was significantly different when those components were "clearly specified" as opposed to "not clearly specified". The 16 mission components were: purpose, values competitive strategy, identification of stakeholders, general corporate goals, non-financial objectives, business definition, self concept, desired public image, concern for survival, concern for customers, concern for employees, concern for suppliers, concern for society, concern for shareholders and statement of vision. Except all but three instances, each of these components was found to have a positive relationship with performance i.e. "clear specification" of the mission component was associated with significantly higher performance measures than when the mission component was "not clearly specified". The three mission components with negative relationships were: identification of stakeholders, non-financial objectives and business definition.

Interestingly, one mission component appeared to have both a negative and positive impact on performance. More specifically, "concern for survival" was found to be both positively associated with "return on assets" and negatively associated with "return on sale"s. It

is also worth noting that out of the 25 mission components examined, 9 were found to have no relationship with any of our performance variables.

Mission Statement Drivers and Performance

Table 5 shows the results from our frequency analysis of the ten rationales or “drivers” used in creating the firms’ mission statements. The results suggest that most of the drivers were used to a fairly high extent. More specifically, seven of the ten drivers were found to have a combined frequency score of 54 percent or more when the “high rationale” and “primary rationale” categories were combined. The seven high-usage drivers were: providing a common purpose, defining the business scope, setting behavior standards, helping employees identify with the firm, creating shared values, emphasizing the interests of external stakeholders and inspiring employees. Of these, three drivers were found to be dominant: providing a common purpose, creating shared values and inspiring employees. Their combined “high” and “primary” driver frequency scores were at least 70 percent.

At the same time, three categories of mission rationales were observed to be used least often. They were: enabling the CEO to exert control, refocusing during a crisis and providing a basis for resource allocation. But, there also appeared to be fairly substantial percentages of firms (i.e., 15 percent or more) reporting that a mission driver was being used to a “low rationale” (or less) in practically every instance.

Table 6, on the other hand, reports the results of our analysis on the relationship between each of the mission statement drivers and firm performance. The findings showed that there was absolutely no relationship between any of the mission statement drivers and any of our measures of *financial* performance. However, six of the drivers were found to have a significant and positive relationship with our *behavioral* performance measure - “mission impact on employee behavior”. The six performance drivers were: providing a common purpose, enabling the CEO to exert control, emphasizing the interests of key external stakeholders, inspiring organizational members, refocusing during a crisis, and providing a basis for resource allocation. The findings suggest that when any of these six rationales was found to be present as a “primary driver”, the influence of mission on employee behavior was observed to be significantly greater than when the driver was rated as “less than primary”.

Managers’ Satisfaction with the Mission Statement

Apart from our analysis on the content of the mission statements, we also asked managers to indicate the degree to which they were satisfied/dissatisfied with their firm’s current mission statement. The results suggested that, overall, most managers were pleased with their firm’s formal mission document. To summarize the results: 14 percent of the managers reported being dissatisfied with their current mission statements; 16 percent of the managers reported being neutral; and 70 percent claimed varying degrees of satisfaction (35 percent satisfied and 35 percent very satisfied).

Discussion and Conclusions

Mission statement content. The analysis of the frequencies with which various mission statement components are deployed (Table 2) is instructive. It shows that managers of industrial firms do indeed discriminate and seem to have some distinct preferences with respect to what is contained in their mission statements and what is not. Being practical creatures, managers tend to focus on those activities which either their intuition or good judgement indicates is the proper course of action to take. From this sample of industrial firms, then, the conventional wisdom suggests that the "typical" mission statement for an industrial firm is one which includes some commentary on each of the following mission component categories: purpose, values, distinctive competence, desired competitive position, identification of stakeholders, general corporate goals, one big goal, concern for customers, concern for employees, concern for shareholders and vision.

It was also particularly interesting to note, though, those mission statement components which were found, with quite high frequency, to be "not included" in their firm's mission statement. For instance, "specific financial objectives" was not included in 50 percent of the mission statements. This finding would appear to finally offer some empirical evidence in support of those theoretical writings on strategy which claim: (a) that mission statements should be fairly general in their orientation; (b) that any specific quantitative objectives should be left to other documents; and (c) that financial objectives are a turn-off when attempting to motivate employees. For the industrial firms in this study, this line of thinking seems to have considerable support among practicing executives.

It was not that surprising, however, to find that "location of the business", "definition of technology" and "concern for survival" were major mission components which were generally not included in their firms' mission statements. One possible reason for the low mention of "business location" is that most firms in our sample were North American - if not global - in their orientation. And so, to attempt any specific geographic definition would be viewed as either an overly restrictive or meaningless gesture. The same also appears to be the case for the low frequency of mention with respect to technology. Most of the firms in this sample were extremely large and operated in a variety of business-related fields. They, therefore, employed a number of technologies which would largely defy any attempt at specification - especially in the firm's mission statement. And, as for high percentage of firms not mentioning any concern for survival, it was not apparent from the selection of companies for this survey that there were any major "going concern" issues. Indeed, both the average return on assets and percentage change in profits were above industry averages (see Table 1).

Nevertheless, it would be interesting to see the results from a frequency analysis of industrial firms' mission components which included smaller, more regional/ local and even some financially threatened organizations. Perhaps, the mission components currently seen as out-of-favour in this study would be significantly reduced. The results of our analysis

comparing industrial and consumer goods firms (presented in the next section), however, provide some interesting clues in this regard.

Mission statements in industrial and consumer goods firms. The findings from our comparison of mission statements between industrial and consumer goods firms is both revealing and instructive. Table 3 shows that for most of the 25 mission statement components, there were no significant differences between these two types of firms. Significant differences were noted only in the case of five mission components i.e., definition of the business, desired public image, concern for survival, concern for employees and concern for shareholders. Because of this, it is our conclusion that the mission statements of industrial and consumer goods firms appear to share a lot in common and that where they differ, the reasons may actually have more to do with factors other than “type of firm”. To illustrate this point, let us briefly consider two of those mission components which were found to be significantly different between industrial and consumer goods companies - definition of the business and concern for survival.

One possible reason for the differences in “business definition” between industrial and consumer goods firms is that industrial firms are generally seen as being much more “technologically oriented” whereas consumer goods companies are viewed as “marketing powerhouses”. Industrial firms, therefore, may have less need to concern themselves with “defining their business” because their businesses tend to be wherever their technologies happen to take them.

Yet, there is another possible (and more plausible) explanation for these results. Defining the business when a firm is small and focussed is generally seen as being a much more manageable task than when the business is large and diversified. And as the data in Table 1 indicate, the consumer goods firms in our sample appear to be much smaller in size than their industrial counterparts. This observation would, therefore, add considerable weight to the notion that mission statements may be influenced significantly as a result of such factors as company scale and scope (as opposed to “type of business”).

A similar situation appears to exist with respect to the mission component “concern for survival”. Our consumer goods firms were found to mention this component significantly more often in their mission statements than the industrials. Once again, this difference appears to have more to do with the economic and financial status of the organizations than the type of business. In particular, the company statistics from Table 1 suggest that the consumer goods firms were much worse off financially. Both their average return on sales and return on assets were below industry norms and their return on assets were significantly less than the industrials. This would explain, then, why our consumer good firms would be much more prone to discussing “concern for survival” in their mission statements than the industrial organizations.

The results obtained with respect to business definition and concern for survival,

however, allude to a particular feature of mission statements which does not seem to have been contemplated or proposed in any previous theoretical or empirical writings on the subject i.e., that certain components of mission statements may be highly situational (or “contextual”) in nature - as opposed to universal. As we have found in our comparison of industrial and consumer goods firms, most of the mission statement components appear to be universal in nature. However, where differences occur (as was observed in Table 3) those differences appear to occur largely as a result of situations unique to the timing and development of the organization. In this fashion, it could be argued that certain mission components arise to find their own place in a firm’s mission statement when particular circumstances warrant and leave once the context no longer applies. It will be the task of future research, however, to determine which of the 25 mission statement components referenced in this study are truly universal in nature and which are simply contextual.

Mission statement components and firm performance. The analysis of the relationship between mission statement components and firm performance is most revealing (see Table 4) and prompts several general observations. First, it appears that the relationship between mission components and the four *financial* performance measures is both tenuous and inconsistent. Our analysis showed no relationship whatsoever between the 25 mission components and either the “average percentage change in sales” measure or the “average percentage change in profits” measure. Interestingly, a few mission components were found to be selectively associated with significant differences in our measures for “return on sales” and “return on assets”. These latter relationships, however, were both intermitant and non-robust. There was also a problem of direction and causality in interpreting these results. In other words, are the observed differences in performance the result of a particular mission component’s inclusion/exclusion? Or, is the decision to include/exclude a mission component the product of a firm’s financial performance? Dealing with the issue of causality is an important consideration in any future research endeavours.

The analysis in Table 4 has shown, however, that the area of greatest mission component impact occurs in terms of “*influencing the behavior of employees*”. This was the only performance measure which produced a consistently positive association with eleven of the mission component variables. These eleven mission components, therefore, are the critical ones which appear to “make a difference” in the performance of industrial firms - at least insofar as influencing the day-to-day actions of their employees is concerned. Managers should consider these components carefully when reviewing their own firm’s mission statement.

Mission statement “drivers” and firm performance. For the most part, our observations concerning the relationship between mission statement drivers and firm performance are identical to those made above concerning mission components and performance. Specifically, there appears to be no relationship whatsoever between the 10 mission drivers and any of the four *financial* measures of performance. A fairly strong and consistent association, however, seems to exist between a majority of the drivers and our measure of mission *influence on employee behavior* (see Table 6). This finding both serves to

confirm some previous and related research (Bart 1996a and 1996b) and also reinforces our earlier observation that the primary impact of mission statements and their components appears to be less financial and more behavioral in nature.

Notwithstanding these observations, it was especially interesting to observe from Table 5 that there were fairly sizable percentages of firms reporting either no use or low use of a particular driver/rationale. Given the significantly positive performance impact of some of these mission rationales as "primary drivers", though, it would appear that this is one area where substantial improvement in the *process* used to create mission statements could take place. Based on our limited sample, it seem that too many firms are currently missing out on the major benefits which could accrue to them (in terms of influencing employee behavior) by failing to adopt any one of six significant mission drivers as their "primary rationale".

It was particularly fascinating to discover, however, the very high percentage of firms which were not using their mission statements for the often-cited purpose of *resource allocation*. Not only are such firms denying themselves the opportunity to significantly influence firm performance through the behavior of their employees, but they are also making it very difficult to implement their mission - which is unfortunate considering all the time and money probably spent in developing it.

Yet, how a firm allocates its time and money (i.e., a firm's two most fundamental resources) represents the only truly tangible expression of its strategy. To the extent that a firm appears to not be using its mission statement for this purpose (i.e. allocating resources) then the senior managers are both handicapping their organization's future and virtually guaranteeing that their stated and chosen strategy/mission will not be realized. Not surprisingly, though, it is also usually these firms where the senior managers complain most bitterly about not being able to get anything done and that "implementing strategy is very difficult". Actually it's not as difficult as they would like to think or have us believe. The problem is that they are defeated before they have even begun because they have failed to align their resources with the stated mission. They only have themselves to blame.

Some Final Thoughts: Implications for Managers

Mission statements abound but there is generally very little guidance on how to create and deploy them. This research project was developed to determine if there was anything particularly unique about the content of mission statements in industrial firms (relative to consumer goods organizations) and whether it was possible to begin specifying what the particular content of an industrial firm's mission statement should look like.

The findings presented have suggested that there are clearly areas of preference on the part of industrial managers with respect to their firms' mission statements. But, at the same

time, mission statements may not be all that different between industrial and consumer goods organizations - at least, in a generic sense. Instead, any reported differences may be more situational and contextual in nature. More research, however, is clearly warranted in order to sort-out further the universal versus situational aspects of mission components.

At the same time, our findings have shown that some aspects of mission appear to have a greater impact on performance than others. But, the nature of the impact is more behavioral than financial in nature. This should cause managers of industrial firms to pause in terms of their expectations when developing mission statements. If managers see the creation of the mission simply as a "ticket to fortune" in achieving their firm's economic objectives, they will most likely emerge frustrated and disappointed. Our findings have shown that there is practically no association between mission and a firm's financial performance (except in a few isolated instances which have yet to be more fully explored). The real benefits and impact from a mission statement come from its influence on the day-to-day behavior and actions of the firm's employees. And this is the proper perspective that managers should adopt in crafting their mission statements. The benefits from mission are emotional and psychic. To the extent that mission statements are developed with that in mind, desired behaviors should materialize - and financial riches should soon follow.

The current research has also identified a number of mission statement components which appear to have a greater impact on employee behavior than others. Managers would do well to consider and refer to these when they are developing their firm's own mission statement. While the results are still preliminary, the current findings hold the potential to one day be used as a template in the construction of mission statements. Time will tell.

In the interim, managers should especially pay close attention to the motives which drive their mission statements in the first place. The findings suggest that managers are not necessarily taking full advantage of the behavioral performance benefits available from their missions. To do so, however, they need only to be much more aggressive and explicit with their mission rationales up-front.

Finally, it was interesting to find that, in spite of the apparent short-comings that seem to exist in many of the firm's mission statements, there were fairly large numbers of managers reporting satisfaction with their mission statements. Clearly, ignorance is bliss. But, hopefully, the findings from this study will also begin to suggest to them the many potential ways in which the mission statement of their industrial firms might possibly be improved.

TABLE 1**KEY FINANCIAL AND OPERATING PERFORMANCE STATISTICS**

(all \$ numbers reported in millions)

	Industrial Goods Firms Mean (N=44)	Consumer Goods Firms Mean (N=32)	Significance
Sales (a)	\$4,248	949	.020
Profits (a)	\$ 108	18	.096
Assets (a)	\$4,393	956	.021
Return on Sales (b)	-2.079%	-2.145%	ns
Return on Assets (b)	1.548%	-2.445%	.054
% Sales Change (b)	-11.828%	-3.627%	ns
% Profit Change (b)	214.44%	20.731%	ns

(a) based on each firm's three year average for 1992, 1993, 1994.

(b) based on each firm's three year average (1992, 1993, 1994) adjusted for industry means.

Table 2

Mission Component Frequency Analysis: Industrial Firms

Mission Components	Not part of mission (1) % response	Stated somewhat in mission (2) % response	Clearly specified in mission (3) % response	Median Score
1. Purpose/Raison d'être	2.6	13.2	84.2	3
2. Values/Philosophy	13.2	26.3	60.5	3
3. Distinctive Competence	18.4	34.2	47.4	2
4. Desired Competitive Position	15.8	23.7	60.5	3
5. Competitive Strategy	10.5	60.5	28.9	2
6. Identify Stakeholders	18.4	28.9	52.6	3
7. Behavior Standards	23.7	34.2	42.1	2
8. General Corporate Goals	2.6	34.2	63.2	3
9. One Big Goal	13.5	29.7	56.8	3
10. Specific Financial Objectives	50	23.7	26.3	1
11. Non-financial Objectives	26.3	34.2	39.5	2
12. Business Definition	28.9	34.2	36.8	2
13. Specific Markets Served	39.5	31.6	28.9	2
14. Specific Products Offered	28.9	42.1	28.9	2
15. Self Concept	32.4	40.5	27	2
16. Desired Public Image	39.5	26.3	34.2	2
17. Location of Business	68.4	13.2	18.4	1
18. Technology Defined	52.6	42.1	5.3	1
19. Concern for Survival	78.4	16.2	5.4	1
20. Concern for Customers	7.9	18.4	73.7	3
21. Concern for Employees	18.4	21.1	60.5	3
22. Concern for Suppliers	44.7	31.6	23.7	2
23. Concern for Society	28.9	36.8	34.2	2
24. Concern for Shareholders	15.8	36.8	47.4	2
25. Vision Statement	15.8	21.1	63.2	3

Table 3**Mission Statement Components: Industrial versus Consumer Firms**

Mission Components	Mean Rank * Industrials	Mean Rank * Consumer	Significance * (two tail)
1. Purpose/Raison d'être	31.49	32.79	ns
2. Values/Philosophy	34.13	28.76	ns
3. Distinctive Competence	31.51	32.74	ns
4. Desired Competitive Position	32.07	31.90	ns
5. Competitive Strategy	33.21	30.16	ns
6. Identify Stakeholder	33.86	29.18	ns
7. Behavior Standards	33.95	29.04	ns
8. General Corporate Goals	32.14	31.78	ns
9. One Big Goal	29.12	35.02	ns
10. Specific Financial Objectives	33.20	30.18	ns
11. Non-financial Objectives	32.88	30.66	ns
12. Business Definition	28.29	37.64	0.0324
13. Specific Markets Served	30.20	34.74	ns
14. Specific Products Offered	32.36	31.46	ns
15. Self-Concept	28.93	35.30	ns
16. Desired Public Image	28.75	36.94	0.0633
17. Location of Business	31.33	33.02	ns
18. Technology Defined	30.34	34.52	ns
19. Concern for Survival	27.59	36.25	0.0242
20. Concern for Customers	31.28	33.10	ns
21. Concern for Employees	34.96	27.50	0.0826
22. Concern for Suppliers	33.99	28.98	ns
23. Concern for Society	34.78	27.78	ns
24. Concern for Shareholders	35.21	27.12	0.0671
25. Vision Statement	33.42	28.46	ns

(*) = Mann Whitney U Test

Table 4

**“Clearly Specified” versus “Not Clearly Specified”
Industrial Mission Statement Components:
Association with Performance**

MISSION COMPONENTS	PERFORMANCE MEASURES				
	% Change in Profits	Return on Assets (ROA)	Return on Sales (ROS)	% Change in Sales	Influence on Employee Behavior
1. Purpose/Raison d'être	ns	ns	ns	ns	a=3.83 b=6.53 ****
2. Values/Philosophy	ns	ns	ns	ns	a=5.13 b=6.73 **
3. Distinctive Competence	ns	ns	ns	ns	ns
4. Desired Competitive Position	ns	ns	ns	ns	ns
5. Competitive Strategy	ns	ns	a=-4.16 b=0.86 **	ns	ns
6. Identify Stakeholder	ns	ns	a=-0.04 b=-5.09 **	ns	ns
7. Behavior Standards	ns	ns	ns	ns	ns
8. General Corporate Goals	ns	ns	ns	ns	a=6.53 b=7.73 **
9. One Big Goal	ns	ns	ns	ns	ns
10. Specific Financial Objectives	ns	ns	ns	ns	ns
11. Non-financial Objectives	ns	ns	a=-1.22 b=-5.27 *	ns	
12. Business Definition	ns	a=3.52 b=-3.41 **	ns	ns	ns
13. Markets Served Defined	ns	ns	ns	ns	ns
14. Specific Products Defined	ns	ns	ns	ns	ns
15. Self-Concept	ns	ns	ns	ns	a=5.63 b=7.5 ***
16. Desired Public Image	ns	ns	ns	ns	a=5.56 b=7.15 ****

Id

MISSION COMPONENTS	PERFORMANCE MEASURES				
	% Change in Profits	Return on Assets (ROA)	Return on Sales (ROS)	% Change in Sales	Influence on Employee Behavior
17. Location of Business	ns	ns	ns	ns	ns
18. Technology Defined	ns	ns	ns	ns	ns
19. Concern for Survival	ns	a=0.42 b=13.41 **	a=-2.418 b=-11.105 *	ns	ns
20. Concern for Customers	ns	ns	ns	ns	a=5.00 b=6.50 *
21. Concern for Employees	ns	a=-2.44 b=3.03 *	ns	ns	a=5.4 b=6.56 *
22. Concern for Suppliers	ns	ns	ns	ns	a=5.83 b=7.00 ***
23. Concern for Society	ns	ns	ns	ns	a=5.64 b=7.00 ***
24. Concern for Shareholders	ns	ns	ns	ns	a=5.45 b=6.83 **
25. Vision Statement	ns	ns	ns	ns	a=4.57 b=7.00 ****

LEGEND:

(a) = performance score when component "not clearly specified" in the mission statement

(b) = performance score when component "clearly specified" in the mission statement

* = 0.10 significance (two tail t-test)

** = 0.05 significance

*** = 0.01 significance

**** = 0.001 significance

Table 5
Mission "Driver" Frequency Analysis

Mission Drivers	(1) Not a Rationale /Driver %	(2) Low Rationale %	(3) Medium Rationale %	(4) High Rationale %	(5) "Primary" Rationale/ Driver %	Median Score
1. Common Purpose	2.4 (14.6)	12.2	14.6	34.1 (70.7)	36.6	4
2. Define Bus. Scope	4.8 (19.1)	14.3	23.8	26.2 (57.2)	31.0	4
3. CEO Exert Control	19.0 (40.4)	21.4	23.8	19.0 (35.7)	16.7	3
4. Set Behavior Standards	0.0 (11.9)	11.9	21.4	42.9 (66.7)	23.8	4
5. Help Employees Identify with Firm	2.4 (19.1)	16.7	26.2	33.3 (54.7)	21.4	4
6. Create Shared Values	2.4 (16.7)	14.3	11.9	40.5 (71.5)	31.0	4
7. Emphasize External Interests	4.8 (19.1)	14.3	19.0	42.9 (61.9)	19.0	4
8. Inspire Employees	4.8 (15.3)	9.5	11.9	42.9 (73.9)	31.0	4
9. Refocus in Crisis	9.5 (30.9)	21.4	38.1	16.7 (31.0)	14.3	3
10. Resource Allocation	16.7 (23.8)	7.1	33.3	31.0 (42.9)	11.9	3

Table 6
“Primary” versus “Non-Primary” Mission Drivers:
Association with Performance

Mission Drivers	Performance Measures				
	% Change in Profits	Return on Assets (ROA)	Return on Sales (ROS)	% Change in Sales	Influence on Employee Behavior
1. Common Purpose	ns	ns	ns	ns	a=5.18 B=7.40 ****
2. Define Business Scope	ns	ns	ns	ns	ns
3. CEO Exert Control	ns	ns	ns	ns	a=5.6 b=6.9 ***
4. Set Behavior Standards	ns	ns	ns	ns	ns
5. Help Employees Identify with Firm	ns	ns	ns	ns	ns
6. Create Shared Values	ns	ns	ns	ns	ns
7. Emphasize Interests of External Stakeholders	ns	ns	ns	ns	a=5.7 b=7.7 ****
8. Inspire Employees	ns	ns	ns	ns	a=5.5 b=7.3 ***
9. Refocus in Crisis	ns	ns	ns	ns	a=5.6 b=6.9 **
10. Resource Allocation	ns	ns	ns	ns	a=5.5 b=6.7 **

LEGEND: * = 0.10 significance (two tail t-tests)
 ** = 0.05 significance
 *** = 0.01 significance
 **** = 0.001 significance

REFERENCES

Bart, C.K. "Product strategy and formal structure". Strategic Management Journal, Vol. 7, Iss. 4, July-August, 1986, pp. 293-311.

Bart, C.K. "The impact of mission statements on firm innovativeness." International Journal of Technology Management, forthcoming, 1996a.

Bart, C.K. "High tech firms: Does mission matter?" Journal of High Technology Management, forthcoming, 1996b.

Bart, C.K. and Baetz, M.C. "Do Mission Statements Matter?" Working Paper 345, School of Business, McMaster University, Hamilton, Ontario, Canada, 1995.

Bates, D.L. and Dillard, J.E. "Desired future position - A practical tool for planning", Long Range Planning, Vol. 24, June, 1991.

Brush, C.G. and VanderWerf, P.A. "Measuring performance of new ventures." Paper presented at Babson Entrepreneurship Conference, Wellesley, MA, 1990.

Byars, L.L. Strategic Management: Planning and implementation. Harper & Row, New York, 1984.

Byars, L.L. "Organizational philosophy and mission statements", Planning Review, Vol. 15, Iss. 4, pp.32-36, 1987.

Campbell, A. "Does your organization need a mission?", Leadership and Organization Development, Vol. 3, 1989.

Campbell, A. and Yeung, S. "Creating a sense of mission", Long Range Planning, Vol. 24, Iss. 4, 1991, pp. 10-20.

Campbell, A. "The power of mission: Aligning strategy and culture", Planning Review, Special Issue, 1993.

Coats, J., Davis, E., Longden, S., Stacey, R. and Emmanuel, C. "Objectives, missions and performance measures in multinationals", European Management Journal, Vol. 9, Iss. 4, December 1991.

Collins, J.C. and Porras, J.I. "Organizational vision and visionary organizations", California Management Review, Fall, 1991.

Daniel, A.L. "Strategic Planning - The role of the chief executive", Long Range Planning, Vol. 25, April, 1992.

David, F.R. Strategic Management. Fourth edition. Macmillan: New York, 1993.

David, F.R. "How companies define their mission", Long Range Planning, Vol. 22, Iss. 1, pp. 1989, pp. 90-97.

Drucker, P. Management: Tasks, responsibilities and practices. Harper & Row, New York, 1973.

Freeman, C. Strategic Management: A stakeholder approach. Pitman, New York, 1984.

Germain, R. and Cooper, M.B. "How a customer mission statement affects company performance," Industrial Marketing Management, Vol. 19, 1990.

Ireland, R.D. and Hitt, M.A. "Mission statements: Importance, challenge and recommendations for development", Business Horizons, May-June, 1992.

Klemm, M., Sanderson, S. and Luffman, G. "Mission statements: Selling corporate values to employees", Long Range Planning, Vol. 24, No.3, pp.73-78, 1991.

McDougall, P.P., Covin J.G., Robinson Jr., R.B. and Herron, L. "The effects of industry growth and strategic breadth on new venture performance and strategy content." Strategic Management Journal, Vol. 15, 1994. pp. 537-554.

McGinnis, V.J. "The mission statement: A key step in strategic planning", Business, November-December, 1981, pp. 39-43,

Medley, G.J. "WWF UK creates a new mission", Long Range Planning, Vol. 25, April, 1992, pp. 63-68.

Oswald, S.L. , Mossholder, K.W. and Harris, S.G. "Vision salience and strategic involvement: Implications for psychological attachment to organization and job." Strategic Management Journal, Vol. 15, 1994, pp. 477-489.

Roth, K. and Ricks, D.A. "Goal configuration in a global industry context." Strategic Management Journal, Vol. 15, 1994, pp. 103-120.

Venkatraman, N. 1989 "Strategic orientation of business enterprises: The construct, dimensionality and measurement," Management Science, 35, 8, pp. 942-962.

Want, J.H. "Corporate mission", Management Review, August, 1986, pp. 46-50.

Wilson, I. "Realizing the power of strategic vision", Long Range Planning, Vol. 25, Iss. 5, 1992. pp. 18-28.

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