Construction of a Seasonal Subjective Performance Instrument for a Primary Industry Sector

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Over the past two decades there has been considerable debate concerning the use of objective financial performance measures, as opposed to the use of subjective performance measures. Nowhere has this debate been more prevalent than in the area of developing a company's market orientation. A review of the extant literature shows considerable support for the use of objective measures, while considerably less attention has been devoted to use of subjective measures. Dawes (1999) found a strong positive relationship between subjective performance measures and a company's overall level of market orientation. This paper reports on the findings of using a set of subjective financial performance measures in the Atlantic Canadian Commercial Seafood Processing Sector. A survey of 463 fish processing companies was conducted, resulting in a response rate of 54%. A strong positive relationship between level of market orientation and subjective measures was revealed. Using Churchill's (1979) model, a subjective financial performance instrument was developed. A discussion pursuant to the use of this scale in the chosen setting is provided, with a full discussion of the limitations of such, as well as areas for future research and development.

INTRODUCTION

All companies and organizations, whether they operate for profit, or exist as non-profit entities, are primarily concerned with financial performance over both the short term and long term. For the latter, where revenue generation may be a larger issue as compared to profit oriented entities, cost control and measures employed for such are central to sustainable operations. While the same is also true for profit oriented enterprises, there is greater emphases on absolute/objective measures of financial performance pertaining to level of profit, ROI, ROA, market share, debt levels, and of course, overall level of revenue. In short, profit oriented companies are concerned with superior returns over the long-term (Barney and Hesterly, 2006; Hoskisson, Hitt, and Ireland, 2004). The measures listed give companies a means to evaluate their performance in an absolute/objective sense.

Of particular interest in the current study (The Atlantic Canadian Fish Processing Industry) may be the fact that companies, which operate in a largely export-based seasonal primary industry sector, have a strong reliance on day-to-day cash flows. It is generally felt that the "nature of the fishing business"(extreme seasonal swings, high levels of technological turbulence, and constant regulatory pressure) is such that there would be less emphasis placed on conventional measures of financial health (Pinfold, 2007). A large majority of companies, instead, focus on their day-to-day cash flows to keep their businesses running, by selling product as soon as it is produced in order to recover the cost of raw materials.

A review of the extant literature does not find day-to-day cash flow as one of the fundamental absolute/objective measures of firm performance. This provides an interesting contextual reality in that it may suggest, at the very least, that companies operating in this industry sector have a short term perspective. Operating in a highly volatile marketing and production environment (Askanas, 2003; Beaudin, 2001), it is interesting to note that since 1995 approximately half of the 960 processing companies in operation had ceased to exist at the time of data gathering for this study (Fall, 2007 and Winter, 2008).

RESEARCH QUESTION

The findings of Pinfold (2007), Askanas (2003), and Beaudin (2001) present an interesting research opportunity. While day-to-day cash flows may not tell us much with regards to company performance, this so-called "reality" may lend itself to an exploration of which measures of financial performance are seen as important. A basic assumption here is that the focus would be on absolute/objective financial measures. However, it would be remiss on our part not to consider an exploration of the use of and attitudes surrounding subjective performance measures. This assertion is supported in part by Dawes (1999) who reports that there is a strong positive correlation between objective and subjective performance measures. In particular, subjective performance measures have been widely used in research on market orientation (an implementation of the marketing concept, or set of behaviors, or business philosophy) and its presumed link to improving company performance. Further work by Kirca, Jayachandran, and Bearden (2005) shows that the market orientation-performance relationship is stronger for subjective measures of performance than for objective measures of performance.

A review of the literature base fails to provide any evidence that any such study has ever been conducted in this setting. According to Pinfold (2007) and Beaudin (2001), the plethora of studies that have been conducted over the past three decades have been nothing more than descriptive analyses of the major issues facing this industry, amounting to nothing more than a repetitive history lesson.

As such, this study is not concerned with the rigorous testing of any pre-defined hypotheses. Rather, the primary purpose is to explore the dimensional constructs of both market orientation and financial performance, utilizing a parsimonious approach, and assessing the reliability, validity, and fit of this model. Subsequently, there will be no analyses of the detailed effect of the said constructs. This will be the focus of a follow-up study.

Our attempts to develop such an instrument may prove useful both academically and managerially. For the former, it will potentially contribute to the research base, lending itself to critique and hopefully further development. For the latter it may prove helpful to companies in its strategic planning exercises, helping them to identify core business attitudes and philosophies, or helping them streamline operations, to mention a few.

LITERATURE REVIEW

Performance is a multidimensional construct (Day & Wensley, 1988; Naman & Slevin, 1993), and researchers advocate the use of multiple measures to assess performance (Atuahene-Gima 1995a, b, 1996a, b; Atuahene-Gima & Ko, 2001; Calantone & Cooper, 1979, 1981; Damanpour, 1991; Langerak, Hultink, & Robben, 2004; Parry & Song, 1994; Song & Parry, 1994, 1996, 1997, 1999). A meta-analysis of the determinants of financial performance indicates: (1) performance is a function of more than one determinant, (2) growth, market share, advertising intensity, and R&D are positively related to performance, and (3) the size of the firm is unrelated to financial performance (Lumpkin & Dess, 1996). With regard to international SMEs, there is no agreement on the appropriate measure of small firm performance (Capon, Farley, & Hoenig, 1990; Day & Wensley, 1988; Naman & Slevin, 1993; Venkatraman & Ramanujam, 1986, 1987). To complicate matters, performance findings cannot be compared across studies since research is typically conducted in one country (Aaby & Slater, 1989; Cavusgil & Zou, 1994; Walters & Samiee, 1990).

In addition to financial based performance measures, market-based measures also exhibit differential performance effects (Zou, Taylor, & Osland, 1998). Successful new product introductions provide superior market acceptance and a perceived product advantage, which result in greater market share and sales growth. Alternatively, high service personnel efficiencies can lower human resource costs and enhance financial performance. Thus, firm specific advantages are embedded in different processes (Hooley, Greenley, Cadogan, & Fahy, 2005).

Export literature deems export performance to be multifaceted and encompassing several measurement approaches, such as: the percentage of sales from export activities or export intensity, the number of export countries, the contribution of exporting to profits, and managers' perceptual measures of satisfaction with export success (Hult, Cavusgil, Kiyak, Deligonul, & Lagerstrom, 2007). Zahra, Newbaum, and Huse (1997) caution that export intensity may have limited inferential use due to the fact that new ventures are only in the early stages of export development. A study of 201 U.S. SMEs finds that these firms are largely domestic focused, with a substantially higher amount of sales to home market customers (Zahra, Neubaum, & Huse, 1997). Therefore, foreign-based measures may not fully reflect performance. Walters and Samiee (1990) state that the determinants of export profitability of small firms vary depending upon the profitability dimension examined.

A meta-analysis of determinants of export performance finds that export performance financial measurements are further complicated by local accounting standards and industry specific expectations (Leonidou, Kaminarides, & Hadjimarcou, 2004). More importantly, among internal and external determinants of performance, internal factors were deemed the single most important set of determinants. Since internal managerial attitudes and perceptions strongly influence export performance (Leonidou, Katsikeas, & Samiee, 2002), assessment of managerial subjective measures captures a more direct measure of performance.

In addition, measurement of performance in an international context depends upon the focus of the research study. Measures can differentiate between the firm's degree of internationalization (DOI) and performance. A firm's DOI represents the SME's international intensity, which can be differentiated from financial performance, whereas prior research typically measures export performance using foreign sales to total sales (FSTS) (Leonidou, Katsikeas, & Samiee, 2002). Although FSTS has been used as an indicator of SME international performance, size may predispose a small firm to exporting as a first stage of

internationalization. Therefore, FSTS does not reflect both the firm's strategic and financial performance. However, FSTS is recommended to reflect the contribution of export sales to total firm profits (Calof & Beamish, 1995; Lu & Beamish, 2004; Saarenketo, Puumalainen, Kuivalainen, & Kylaheiko, 2004; Zahra & Garvis, 2000). In conclusion, profitability alone may not be an appropriate measure for small entrepreneurial firms in early growth stages (Zahra, Neubaum, & Huse, 1997) and may be low in early growth years. It may be argued, therefore, that growth is often the result of strategic firm objectives which conflict with short term financial performance. This may have been, or be, a contributing factor to the high number of company failures over the past 15 years or so.

Small firms pose additional challenges to performance measurement. Research on small firms often predisposes the researcher to the choice of a subjective performance measure since financial information on SMEs is a private matter of the owner. An accepted practice that overcomes disclosure of private financial information is the use of a subjective indirect measure of the firm's performance relative to a firm's principal competitor (Choonwoo, Kyungmook, & Pennings, 2001; Sapienza, Smith, & Gannon, 1988). Indirect and direct measures of performance have been used interchangeably since (i) both measures have been validated as being strongly correlated in empirical studies (Li & Atuahene-Gima, 2001; Narver & Slater, 1990; Sapienza, Smith, & Gannon, 1988; Venkatraman & Ramanujam, 1986, 1987), and (ii) subjective self report measures have been deemed reliable (Pearce II, Robbins, & Robinson, 1987). Some studies have found that perceptual based measures have also been recommended to compensate for consistency and reliability across countries (Venkatraman & Ramanujam, 1986, 1987), and to capture the strategic outcomes of firm goals (Hult, Cavusgil, Kiyak, Deligonul, & Lagerstrom, 2007). Whether before or after, these studies support the findings of Dawes (1999) and Kirca et al. (2005).

Since international operations may take several years to develop (important in an export-based industry), a measure of satisfaction with international activities captures the manager's assessment of the firm's progress on international goals. Perceptual based measures have also been recommended to compensate for consistency and reliability across countries (Venkatraman & Ramanujam, 1986, 1987) and to capture the strategic outcomes of firm goals (Hult, Cavusgil, Kiyak, Deligonul, & Lagerstrom, 2007). Examples of strategic performance measures include: market share, market growth, firm reputation, and competitive position. Examples of subjective measures of financial performance measures include: return on investment (ROI) (Hooley, Greenley, Cadogan, & Fahy, 2005; Hult, Cavusgil, Deligonul, & Lagerstrom, 2007; Hult, Ketchen, & Slater, 2005; Leonidou, Kaminarides, & Hadjimarcou, 2004; McDougall & Oviatt 1996), and return on assets (ROA) (Chang & Chen, 1998; Contractor, Kumar, & Kundu, 2007; Delios & Beamish, 1999; Hult, Ketchen, & Slater, 2005; Li & Atuahene-Gima, 2001; Lu & Beamish, 2004; Lukas, Tan, & Hult, 2001).

METHODOLOGY

General Framework

According to Deng and Dart (1994), psychologists were among the first social scientists to develop and refine rigorous methods for constructing instruments to measure behavioural variables. A review of the works of Ghiselli (1964), Likert (1967), and Nunnally (1978) supports this assertion. In this study the steps and procedures used to develop a parsimonious model of the dimensions of performance measures follows the now generally-accepted principles of

instrument design set out by these pioneers (Deng and Dart, 1994). These steps and procedures are outlined in Churchill's (1979) general design and are used as the basic structure for this study, with specific adaptations as needed.

Questionnaire Design

It is recognized that use of both types of financial performance measures may provide a much better picture of how a company is performing. Taking into account the volatility generally associated with data gathering in the Atlantic Canadian context (Askanas, 2003; Coleman, 2007) it was decided that utilization of a focus group with invited industry experts was needed to help in the construction of the survey questionnaire.

Use of a focus group is an accepted method in exploratory research (Aaker, Kumar, & Day, 2007; Burns & Bush, 2006; McGivern, 2006; Alreck & Settle, 2004). Following the decision to employ this tool, a traditional exploratory focus group (Aaker, Kumar, & Day, 2007; Schmidt & Hollensen, 2006) was established. Optimal size for a traditional focus group is thought to be 6-12 participants (Burns and Bush, 2006). Others believe that groups of 8-12 have become customary (Aaker, Kumar, & Day, 2007; Fern, 1982). It was felt that twelve participants would accomplish the desired goals. Using the Canada Business Zip Com Directory, 222 companies were identified. Using systematic sampling, a Skip Interval was calculated, giving 222/12 = 18.5 (19). The twelve participants were then selected from the directory, resulting in 4 participants from Newfoundland, 3 from New Brunswick, 4 from Nova Scotia, and 1 from Prince Edward Island. Participants were asked to complete a sample questionnaire, which consisted of 44 market orientation scale items (5-point Likert scale) (Gray et al. 1998), questions pertaining to both types of financial performance measures, as well as four business philosophy questions (Deng and Dart, 1994). It was found that all 12 participants were very reluctant to discuss matters surrounding absolute/objective performance, but felt that day-to-day cash flow was very important. The general consensus amongst the participants was that such questions would not be "received favorably", combined with a "none of your business" attitude in the discussion. It was felt that using absolute measures in the larger survey would possibly result in "a high level of non-response". The remaining items were discussed with no problems.

Following the focus group session, questionnaire design was initialized. This was accomplished over four stages. Stage 1 saw the selection of questions and scale items to be used, incorporating the findings of the focus group. Stage 2 employed use of the Acid Test (Alreck and Settle, 2004) to further refine the survey questionnaire. Stage 3 commenced with a formal pre-test of the questionnaire, with a maximum of 10 participants (Burns and Bush, 2006). Participants were selected as in the focus group, where a new skip interval was calculated, giving 210/10 = 21. Each participant was then identified and contacted for participation in this exercise. The observations from the pre-test coincided with those from the focus group. Stage 4 saw the finalization of the questionnaire with incorporation of the findings from the pre-test. It was decided that all of the items dealing with absolute financial performance, except level of annual revenue, would be excluded for fear of high levels of non-response. Those items pertaining to subjective measures of financial performance were kept, as were the four business philosophy statements. All of the questions dealing with market orientation were kept. The finalized version was then re-coded to account for these updates.

The Sampling Process/Sampling Plan

The sample for this study was selected from a single primary industry - the population of fish processing companies in the Atlantic Canadian fishing industry, inclusive of all four provinces. According to Harris and Piercy (1999) deliberate selection of a single primary sector helps eliminate or reduce the environmental contingencies that often affect the usefulness of the data gathered, especially where issues surrounding the volatility of data gathering are concerned.

All companies were provincially licensed or provincially licensed with a federal registration. Using the Department of Fisheries database from each of the four provinces, it was found that Newfoundland and Labrador had 140 such companies, while Nova Scotia had 184, New Brunswick had 134, and Prince Edward had 27, for a total of 485 fish processing companies, or N = 485.

A directory was then finalized for each province. All of the companies in each of the provincial directories were then cross-referenced with the Canada Business Zip Com Directory. With the exception of those companies that had gone out of business or had moved out of the region altogether, it was found that all of the companies appearing in the Canada Business Zip Com Directory were also present in each of the four provincial directories. Each of the four provincial directories contained companies that were not included in the Canada Business Zip Com Directory, making them more inclusive. All participants from each of the focus group and pre-test exercises (a total of 22 companies) were removed from each of the provincial directories, reducing the usable population of processing companies to N = 463 companies.

This study is concerned with sampling only those companies in the processing sector (size sampling). Use of the size sampling method is well accepted in industrial marketing research because of its higher efficiency (Lee and Cohen, 1999; Karmel and Jain, 1987). Considering the total number of companies as well as the size of the region it was possible to survey the whole population. Utilizing a survey study design, all 463 of the remaining companies in the processing sector were surveyed.

Data Collection

Following (i) completion of the survey questionnaire, and (ii) identification of companies to be surveyed, data collection commenced and concluded in Fall 2007 and Winter 2008, respectively. Using the contact information from each of the four provincial databases, each of the 463 companies was sent a questionnaire package via mail-out distribution. Everyone was informed by way of a cover letter of the particulars of the study, and invited to participate, with a promise that a copy of the research results would be forwarded to them if they so desired.

It should be noted here that only one questionnaire was sent to each company, resulting in a single potential respondent or key informant. This may limit the data findings from the perspective that those responding might yield too optimistic a picture about the company, in particular its market orientation behavior (Kohli, Jaworski, and Kumar, 1993). Pelham and Wilson (1995) suggest that use of a key internal informant may lead to position bias. To help alleviate this, other researchers have recommended and used multiple informants in order to achieve a more accurate view of a company's overall behavior (Kohli et al. 1993; Gray, Matear, Boshoff, and Matheson, 1998; Sivaramakrishnan, Zhang, Delbaere, and Bruning, 2008). However, considering the contextual factors and volatility of the region under study, financial and temporal restraints, the limitations imposed by the seasonal nature of this industry, and the fear of potentially increasing the rate of non-response, questionnaires were not sent to multiple respondents within each company.

It is important to recognize that the opinions and attitudes of the "executive few" may not necessarily reflect the values, attitudes, and behaviors of the whole company (Grant, 2007). Additionally, the propensity for self-selection bias upon receiving the questionnaires is also recognized. In this study, however, both of these are beyond the control of the researcher. From each of a geographic, demographic, psycho-graphic, and behavioral perspectives, it is felt that the sample is broad and deep enough to gather the data needed to assess the dimensions of market orientation and measures of financial performance most prevalent in this setting.

DATA ANALYSIS AND DISCUSSION

Response Rate Distribution

The total known population as of June 2007 was 485 companies. Adjusting for both the focus group and pre-test group participants, 463 surveys were sent out. Table 1 illustrates the response rate distribution by province.

TABLE 1
RESPONSE RATE DISTRIBUTION BY PROVINCE

Category	NL	NS	NB	PE	Total
# Surveys sent	133	176	129	25	463
# Completed surveys returned	67	86	61	14	228
# Usable surveys	62	80	58	14	214
# Surveys returned unopened	6	23	8	4	41
# No response	60	67	60	7	194

Consequently, the response rate, based on an adjusted population, was 54% [228/(463-41)]. Proctor (2005) says that of those designated as potential respondents, 50 to 60% would be expected to participate in a mail survey, further stating that achieving 50% response rate on the first round is good. Jackson (1999) also says that a 50% response rate on the first round is good. Both refer to findings in an American context. In Canada, due to cultural factors, one can expect to have response rates about 7% lower than in the United States (Goyder, 1982; Jackson, 1999). In this study, a 54% response rate should be considered good. With further data purification, 14 additional surveys were removed, leaving 214 usable surveys for analysis.

Analytical Techniques, Scale Development and Refinement

Data from the 214 usable questionnaires were entered into SPSS for Windows, Version 15.0. Non-response bias was assessed to determine suitability of the sample. Cronbach alphas were then computed and unreliable questions were dropped from the scale before any further analysis. Both exploratory and confirmatory factor analyses (confirming construct validity of MO measures) were then used to reduce the remaining data set to those items and constructs which appear to measure market orientation most appropriately. Table 2 summarizes these efforts.

TABLE 2
DIMENSIONS OF MARKET ORIENTATION

Dimensional Construct	Designation	α	AVE
Customer Orientation	CUST	0.868	0.77
Competitor Orientation	COMP	0.897	0.77
Inter-functional Coordination	INTF	0.900	0.78
Profit Orientation	PROF	0.924	0.87
Intelligence Dissemination	INTD	0.924	0.90
Responsiveness	RSPVN	0.694	0.57

Next, we conducted an assessment of the performance measures used. The results of this assessment found that (i) two subjective measures of company performance remain – overall performance of the company in the previous year (ORGP1) and overall performance relative to competitor's in the previous year (ORGP2), and (ii) three subjective marketing performance measures remain – customer satisfaction (ORGP3), customer loyalty (ORGP4), and brand awareness (ORGP5). Table 3 summarizes these efforts.

TABLE 3
ASSESSMENT OF PERFORMANCE SALE

Item	Cronbach alpha	Item-to-total correlation
Performance Measurement	0.820	
Overall company performance (ORGP1)		0.658
Performance relative to competitors (ORGP2)		0.573
Customer satisfaction (ORGP3)		0.526
Customer Loyalty (ORGP4)		0.738
Brand Awareness (ORGP5)		0.616

Note: n = 214; p = 0.000

An analysis of the five performance measures revealed a single factor solution with an explained variance of 59%, Eigen-value greater than 1, and Cronbach alpha of 0.820. These values are sufficient to accept the five item performance scale as being reliable.

Similar to Deng and Dart (1994), we evaluated the multiple correlation coefficient between the scores on the six measures of market orientation and an aggregate measure of company performance (inclusive of ORGP1, ORGP2, ORGP3, ORGP4, and ORGP5), and found it to be 0.551. This indicates that the six measures of market orientation, taken together, have a moderate and acceptable degree of criterion-related validity. It also indicates that each of the five measures of subjective performance are suitable in this setting. Finally, these results lend further support to previous research findings about the positive relationship between company performance and market orientation.

Next, and similar to Gray et al. (1998), we assessed the Spearman correlation coefficients between company performance and each of the six constructs from the parsimonious scale, as well as an overall (aggregated) market orientation measure. Table 4 summarizes the results of this assessment.

TABLE 4
MARKET ORIENTATION AND PERFORMANCE CORRELATIONS

Dimensional MO Construct	ORGP1	ORGP2	ORGP3	ORGP4	ORGP5
Customer Orientation	.334**	.198**	.321**	.404**	.366**
Competitor Orientation	.421**	.363**	.081	.245**	.341**
Inter-functional Coordination	.328**	.273**	.262**	.319**	.432**
Profit Orientation	.388**	.299**	.158*	.316**	.455**
Intelligence Dissemination	.439**	.296**	.217**	.401**	.416**
Responsiveness	.129	.171*	.355**	.268**	.351**
Overall Market orientation	.458**	.350**	.264**	.402**	.522**

**. Correlation is significant at the 0.01 level; *. Correlation is significant at the 0.05 level.

The Spearman correlation coefficients show that there is a significant, albeit moderately strong, relationship between market orientation and the five measures of performance. The relationship is strongest with brand awareness (ORGP5) and weakest with customer satisfaction (ORGP3), suggesting that market orientation may be a better predictor of superior brand development and performance than strong customer relationships in the Atlantic Canadian commercial fish processing sector. An examination of the relationship between the six sub-dimensions of market orientation (or market-oriented behavior (Gray et al. (1998)) and the five measures of performance, shows inter-functional coordination and an emphasis on profit being significantly related to brand awareness.

The individual sub-dimension with the strongest relationship with overall performance of the company in the previous year (ORGP1) appears to be intelligence dissemination. This may suggest that regular inter-departmental meetings to discuss market trends and developments, to discuss customer needs, as well as share customer satisfaction data may be linked with improving company performance. The individual sub-dimension with the strongest relationship with overall performance relative to competitor's in the previous year (ORGP2) appears to be competitor orientation. This may suggest that companies are able to improve their performance by first becoming aware of the behaviors of their competitors in this highly competitive business environment, and then deliberately set plans to effectively and efficiently respond to competitor actions, as well as improve its competitive advantage on new product and market development. The individual sub-dimension with the strongest relationship with customer satisfaction (ORGP3) is responsiveness. This suggests that well-coordinated, expedient, and well-informed responses to changes in both customer needs and competitor actions may improve overall customer satisfaction by providing the best quality products and services at the best price. Finally, the individual sub-dimension with the strongest relationship with customer loyalty is customer orientation. This suggests that a strong commitment to customers, either through

encouraging customer comments and complaints, after-sales service, continually seeking ways to incorporate value into products, or measuring customer satisfaction on a regular basis, is likely to lead to improved and sustained customer loyalty. The end result will most likely be an improved level of overall company performance.

Additionally, Spearman correlation coefficients were computed to analyze the relationship between company performance and four business philosophies. These include - production orientation (BUSP1), sales orientation (BUSP2), market orientation (BUSP3), and a societal orientation (BUSP4). Table 5 summarizes the results of this assessment.

TABLE 5
BUSINESS PHILOSOPHY AND PERFORMANCE CORRELATIONS

Philosophy	ORGP1	ORGP2	ORGP3	ORGP4	ORGP5
Production Orientation	-.258**	-.264**	-.059	.003	-.162*
Sales Orientation	.019	-.063	.010	.100	.053
Marketing Orientation	.216**	.083	.257**	.339**	.297**
Societal Orientation	.281**	.138*	.137	.294**	.297**

**. Correlation is significant at the 0.01 level; *. Correlation is significant at the 0.05 level.

These results may suggest that a marketing orientation may be a better predictor of company performance than either of the production orientation and sales orientation. A comparison of the results from Table 4 and Table 5 shows that there appears to be a stronger relationship between market orientation and performance than between marketing orientation and performance, suggesting that any encouragement of market-oriented behavior (implementing the marketing concept) may improve the corporate culture-performance relationship.

CONCLUSION

The five dimensions of performance observed in this study (Table 3) clearly fall into the subjective measures category. For the purposes of this study they are acceptable. While measures such as ROI and ROA are seen as subjective measures, when positioned such that participants are asked to make a judgment about company performance relative to its competitor's, they were not used in this study. Observations from both the focus group and the pre-test group suggested that using such measures may contribute to non-response, as would using more absolute/objective measures.

The five dimensional performance measures instrument was not subjected to a confirmatory factor analysis. Following Churchill's (1979) model, it is felt that more work needs to be done to validate both subjective and objective measures in this setting, and develop this model separately from that of market orientation. This will be the focus of a follow-up study.

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