

Developing an Industry Index Valuation for a Seasonal Parsimonious Market Orientation Model

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An industry index provides a benchmark which companies are able to use when assessing performance on selected economic, financial, marketing performance measures, and the like. Utilizing the method of Sivaramakrishnan, Zhang, Delbaere, and Bruning (2008), an industry index was developed for Sheppard' (2009) seasonal parsimonious market orientation model (for individual constructs, and overall market orientation) of the Atlantic Canadian seafood processing industry. To complete the industry index valuation, the paper follows with a discussion of how to managerially interpret the model, it uses and its limitations, as well as recommendations for extension across other seasonal industry settings.

INTRODUCTION

Perhaps one of the most important determinants of the competitiveness of a company, or the larger industry base in which a company belongs, is the quality of its marketing platform. In particular, its market orientation initiatives. While itself an index, developing a market orientation (MO) has been linked to improved company performance, better customer satisfaction and loyalty, better strategy formulation, and happier employees, to name a few. In this case, developing a MO index provides the company with a yardstick against which they can measure both the quality and effectiveness of its core marketing activities, assessing performance on selected economic and financial indicators, assessing its competition, as well as marketing performance measures.

This study, while reporting on the findings of Sheppard (2009), is equally concerned with positing the notion that an evaluation of the MO index is essential. Like Ivanova, Arcelus, and Srinivasan (1999), these two dimensions formulate the two objectives of this study, namely: (i) to provide information on its validity as a composite measure vis a vis the components (MO constructs) themselves; and (ii) its properties as an index, via evaluation.

LITERATURE REVIEW

The development of an index has been regarded as a successful measure for improving competitiveness (Ivanova et al., 1999). Given the “state” of the market orientation sub-discipline, much research and effort has gone into identifying and developing sufficient measures of fit/scales/indices of MO (Matsuno, Mentzer, and Rentz, 2003) as a means to improve company performance, held as a long-standing benefit. Contributing to this “state”, or dilemma, is the fact that very little attention had been given to measurement and fit issues prior to 1990, and there were virtually no empirically based theories (Dobni and Luffman, 2000) that supported any one particular approach. The establishment of valid and

reliable construct items that measure market orientation is still a major concern. There is still no consensus on which measure, from the existing scales (e.g. Cadogan and Diamantopoulos, 1995; Kohli and Jaworski, 1990; Lichtenthal and Wilson, 1992; Narver and Slater, 1990; Ruekert, 1992), is the better one to use (Matsuno et al., 2003). In light of this, any attempt to refine the construction of an MO index is welcome.

Notwithstanding the above issues, there are three generally accepted ways to determine model fit, and the subsequent construction of a MO index, namely: (i) Incremental, (ii) Absolute, and (iii) Parsimonious (Babin, 1994). The latter approach is recommended in an exploratory context (Harris and Piercy, 1999; Yin, 1994; Churchill, 1991), as is the case in this study, because it enables the development of a fuller contextual sense of the phenomena studied (Miles, 1979). It can be argued that it is a suitable form for more complete theory development (Van maanen, 1979a; 1979b). The practical, and managerial, implication for companies using this methodology is that it allows them to explore their own market orientation within their own setting, or explore the industry in its entirety. Clearly, this modeling approach is preferred when there is a desire to depict, or highlight, the contextual factors of the setting. It also helps nullify, or lessen to a large extent, the issues surrounding the generalizability of findings (Sheppard, 2009).

In terms of labeling the index type, there are two that commonly appear in the literature, specifically: (i) a composite index, and (ii) a value-based index (Diener, 1995). The composite index, or approach, is concerned with combining separate parts or elements into a single entity or value, one that can then be used to describe the behavior or position or reality of the phenomena under study. The value-based index, or approach, is concerned with identifying and selecting measureable variables that are based on a universal set of values, such as the behavioral and philosophical tenets of company/industry culture, and then using these to construct the index (Diener, 1995).

METHODOLOGY

Part I

Utilizing Churchill's Model (1979), a parsimonious seasonal market orientation (MO) index had been developed for the Atlantic Canadian seafood processing industry (Sheppard, 2009). Using both the Canada Business Zip Com Directory (2007) and each of the four Atlantic Canadian provincial Departments of Fisheries databases (2007/8), it was found that a total of 485 processing companies remained in what is generally known as a volatile and unstable industry sector (Askanas, 2003; O'Neill, 2006; Pinfold, 2007). Accounting for use of both a focus group (12 participants) and a pre-test group (10 participants) in designing the survey questionnaire, 463 companies remained for data gathering purposes.

Utilizing a survey study design with a single wave administration of the survey questionnaire, all 463 remaining companies were surveyed via mail-out distribution. Accounting for non-response, company closures, and incomplete responses, the adjusted population response rate was 54%. This is considered acceptable (Eichner & Habermehl, 1981; Goyder, 1982; Jackson, 1999; Procter, 2005). Following initial data cleaning, non-response bias was assessed. It was concluded that the sample was sufficient to proceed and draw conclusions about market orientation in this sector.

Scale purification followed via reliability analysis and exploratory factor analysis (EFA), respectively. Confirmation of the dimensions of market orientation was performed via confirmatory factor analysis (CFA). Table 1 below summarizes the findings of these efforts.

TABLE 1
PARSIMONIOUS MARKET ORIENTATION INDEX (SHEPPARD, 2009)

Construct	Label	α	Average Variance Extracted (AVE)
Customer Orientation	CUST	0.868	0.77
Competitor Orientation	COMP	0.897	0.77
Inter-functional Coord.	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

$\chi^2 = 1295.76$; $df = 362$; $p\text{-value} = 0.00000$

Root Mean Square Error [RMR] = 0.077

Comparative Fit Index [CFI] = 0.93

Incremental Fit Index [IFI] = 0.93

Normed Fit Index [NFI] = 0.90

Non-normed Fit Index [NNFI] = 0.92

Range of Standardized Loading Estimates = [0.42 – 0.99], with all t-values > 2.00

All AVE values > 0.50 = convergent validity

Largest value for shared variance between all pairs of constructs = 0.55 < 0.57 (smallest AVE value), hence discriminant validity and construct validity.

Note: Variables were measured on a 1 to 5 Likert scale; α = Cronbach's alpha.

Part II

Constructing an industry index is essential in that it provides a clear valuation of an industry benchmark which these companies can now use. Utilizing the method of Sivaramakrishnan, Zhang, Delbaere, and Bruning (2008), an industry index score was calculated for each of the constructs in the parsimonious model. This was accomplished by first finding the mean value of the responses to the questions for each of the six constructs in the parsimonious model. Next, an overall market orientation index score was calculated by finding the mean value of the responses across all of the constructs in the parsimonious model. Table 2 provides a summary of the index valuation.

TABLE 2
IDEX VALUATION OF THE PARSIMONIOUS MO MODEL

MO Construct	Label	Mean	St. Dev.	Std. Error
Customer Orientation	CUST	4.29	0.70	0.05
Competitor Orientation	COMP	3.79	0.89	0.06
Inter-functional Co-ordination	INTF	3.41	0.92	0.06
Profit Orientation	PROF	4.07	0.85	0.06
Intelligence Dissemination	INTD	3.26	1.10	0.08
Responsiveness	RSPVN	4.26	0.54	0.04
Overall Market Orientation	OMO	3.86	0.60	0.04

DISCUSSION

It must be remembered that the wording of the market orientation questions in the original survey was arranged in such a manner as to get rid of the “yeah-sayer, nay-sayer” bias (Kohli and Jaworski, 1990; Jackson, 1999). That is, some questions were oriented in a negative direction, while others were oriented in a positive direction. When the data was recorded, this had been accounted for so that transcription of the data followed a common direction across all of the market orientation questions/constructs. Therefore, the above index scores per model construct are to be interpreted in a manner where any value greater than the stated index value (i.e. the mean) in the parsimonious model is a more positive position for the company, while any value less than that stated is a more negative position for the company.

In a general sense, companies in the Atlantic Canadian commercial fish processing sector should at least strive for an overall market orientation (OMO) index score of 3.86, with a standard deviation and standard error on assessment of 0.60 and 0.04, respectively. Assuming the integrity of the model constructs remains intact, the index valuation gives us a composite measure for this industry. Figure 1 provides the appropriate illustration.

FIGURE 1
COMPOSITE INDEX OF ATLANTIC CANADIAN SEAFOOD PROCESSING INDUSTRY

$$OMO = \frac{\sum_{i=1}^n x_i}{n}; \text{ n is defined as \# dimensional construct's in MO index; } i = 1 \text{ to } 6$$
$$= (X_1 + X_2 + \dots + X_n) / n$$
$$= (\text{CUST} + \text{COMP} + \text{INTF} + \text{PROF} + \text{INTD} + \text{RSPVN}) / 6$$

It must be remembered that individual company circumstances will most likely affect and determine its market orientation, and consequently, its OMO index value. In this regard, some may argue that while OMO is a composite-based measure, it is also one built from assessing the attitudes and practices pertaining to market orientation behavior and philosophy. As such, this may reflect a value-based approach to index building.

The industry sector under study, while technologically stable, is generally seen to be unstable and changing, and wrought with fierce competition (Beaudin, 2001; Pinfeld, 2007). The exploration of a company's market orientation under such conditions is acceptable (Kohli and Jaworski, 1990). However, the individual responses given to any of the market orientation questions in the parsimonious model should be examined on an individual (meaning company) basis before any concrete decisions regarding company operations are made.

CONCLUSION

The primary conclusion of this study is that the development and valuation of a MO index provides useful information to both the company and the broader industry sector. This index will provide a much needed benchmark in an industry typically known to be in a state of crisis (Beaudin, 2001). Whether the management perspective is internal or external, it will help in identifying areas of deficiency as well as strength for the company, and the industry as a whole.

However, it must be remembered that data pertaining to a company's MO probably reflects more of its current development and strategic initiatives, and nothing about its future development levels. Further refinements are most likely needed in the development of the parsimonious index, as this allows for

generalization across the larger industry sector. Finally, construction and valuation of any index is most likely enhanced with additional theoretical support as a quantitative measure (Ivanova, et al., 1999), as well as additional empirical data.

Considering these things it is felt that both objectives of this study have been reached. The issues of generalization across this industry, and subsequent refinement of the index, as well as its applicability to other primary industry sectors will be the focus of a follow-up study.

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