MARKET ORIENTATION: RELATION TO STRUCTURE AND PERFORMANCE

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Abstract

The purpose of this study is to identify and resolve the incompatibilities of Organizational structure dimensions which have been theorized as significant to and organizational performance as a consequence of market orientation. Results show that the structure dimensions (formalization, specialization, decentralization, and integration) tested, only formalization was suggest to be a positive forecaster of market orientation. Market orientation was suggest to be a positive forecaster of both financial and marketing performance. Research limitations/implications – The body of evidence assembled does not support the proposition that organizational structure influences market orientation. It does, however, support the proposition that a market orientation positively influences organizational performance.

Keywords Market orientation, Organizational structures, Organizational performance

Introduction

Kohli and Jaworski (1990) theorized a market orientation model that includes organizational structure-related constructs as significant to a market orientation and business performance as a consequence. The incompatibilities are related with the structure and orientation links indicating that the theorized impact of organizational structure on an organization market orientation has not been sufficiently established. Data were collected from a sample of Kermanshah province (Iran) manufacturers using a combined internet e-mailing and traditional e-mailing methodology. The market orientation model illustrated in Figure 1 was estimated using a structural equation modeling approach, and Figure 2 presents the results of the structural estimation. The contributions of this study include:

* A detailed description of the incompatibilities in the results from prior studies;
* An additional general testing of the structure-orientation performance model using a different set of assessment scales; and
* A specific testing of the relationships between formalization, orientation and marketing performance as recommended by Jaworski and Kohli (1993).

Review of literature

Kohli and Jaworski’s (1990) market orientation model developed a comprehensive framework of theorized relationships among the market orientation construct and it's significant. The significant include senior management factors, inter-departmental dynamics, and organizational systems. They describe three components of a market orientation:

1 The organization-wide generation of market intelligence. 2 Dissemination of the market intelligence across departments. 3 Organization-wide responsiveness to the market intelligence.

The organizational systems set of significant includes three organizational structure-related constructs: departmentalization, formalization, and centralization (Kohli and Jaworski, 1990). Additionally, the interdepartmental set of significant includes a structure-related interdepartmental connectedness component. Kohli and Jaworski (1990) suggested that greater departmentalization, formalization and centralization lead to lower intelligence generation and dissemination and greater response to intelligence. They theorized a direct, positive relationship between market orientation and organizational performance. They list favorable business performance indicators as return-on-
investment, profits, sales volume, market share and sales growth (Kohli and Jaworski, 1990). Prior investigations of the market orientation model Since Kohli and Jaworski (1990) first described the market orientation model, Jaworski and Kohli (1993), Harris (2000), Pulendran et al. (2000), Matsuno et al. (2002) and Tay and Morgan (2002) have conducted investigations and published results of tests of the model. Table I summarizes the results of the five prior studies. Jaworski and Kohli (1993) generated hypotheses based on the Kohli and Jaworski (1990) propositions and used a multiple linear regression approach to test the hypotheses using data from two samples comprised from senior managers. In addition, they suggest that, while a market orientation promotes improved business performance, it does not predict market share. Selnes et al. (1996) develop the Jaworski and Kohli (1993) study by analyzing data and using a multiple linear regression approach. While connectedness was suggest to promote a market orientation, neither centralization nor formalization was significantly related to market orientation. They also suggest that, while a market orientation predicts improved business performance, it does not predict market share. Harris (2000) analyzed data for large UK retailing organizations using a multiple linear regression approach to investigate the significant relationships of the structure, strategic and systems related to market orientation. Centralization and formalization were supposed as having negative relationships with market orientation, while connectedness was supposed as positively related to market orientation. Results supported only the negative relationship between centralization and market orientation. Pulendran et al. (2000) used multiple linear regression analysis to estimate the relationships between structure-related constructs and market orientation and overall performance. They supposed a positive relationship between connectedness and market orientation and negative relationships between formalization and centralization and market orientation. Results supported connectedness-orientation link. As well as supposed and suggest support for a positive link between orientation and performance. Matsuno et al. (2002) assessed a structure of a larger study of the effects of entrepreneurial tendency and market orientation on business performance. They supposed negative significant relationships between formalization, centralization and departmentalization and market orientation. A structural equation modeling approach was used to analyze data collected from marketing executives for manufacturing firms. The structural paths from formalization and centralization to market orientation were identified as non-significant. The path from departmentalization to market orientation was suggest to be negative and significant. They also supposed and support a positive significant paths from market orientation to market share, new product sales to total sales, and return on investment. Tay and Morgan (2002) estimate the significant relationships of formalization, centralization and specialization with market orientation. The relationship between centralization and a market orientation was identified as non-significant. Both formalization and specialization were identified as significant positive forecaster's of a market orientation. The results also indicate that market orientation positively influences both marketing and business performance. There is considerable evidence to support Kohli and Jaworski’s (1990) proposition that the “greater the market orientation of an organization, the higher its business performance”. The evidence related with the significant relationship of organizational structure-related constructs. Problems related to the samples, the organizational structure and performance assessment scales, and the statistical analysis methods employed have conclusive estimation of the Kohli and Jaworski (1990) model. The samples narrowly focus on top level marketing executives. This narrow focus may have resulted in a knowledge bias. Marketing executives are to have knowledge relating to the viability of a market orientation and its impact on organizational performance than they have relating to the dimensions of organizational structure. But the Matsuno et al. (2002) study utilized a structural equation modeling approach. Since the market orientation model was theorized as a holistic model, it should be tested as such using structural equation modeling technique. Kohli and Jaworski (1990) included of four structure-related constructs (interdepartmental connectedness, centralization, formalization and departmentalization) as significant to market orientation. While all of the studies generally tested the structure orientation link, only one (Jaworski and Kohli, 1993) tested the specific links theorized by Kohli and Jaworski (1990). Kohli and Jaworski (1990) theorized improvement in business performance as a consequence of adoption of a market orientation and listed “ROI, profits, sales volume, market share, and sales growth”. Generally, the results related with the orientation-performance link are consistent. Only one performance variable (market share) in a studies (Selnes et al., 1996) was not identified as positively related to a market orientation.
Hypotheses

The market orientation model in Figure 1 incorporates six constructs and illustrates the supposed relationships among the constructs. The model suggests that a firm’s structure directly influences its degree of market orientation and that the firm’s degree of market orientation increases its performance. Integration, formalization, and decentralization are specified as constructs related to organizational structure. The model suggests that increased integration, formalization, and decentralization support improved market orientation. Further, the model suggests that increased market orientation results in improved financial and marketing performance.

Construct definitions

The constructs incorporated in the model include: market orientation, integration, formalization, decentralization, financial performance, and marketing performance. Deshpande’ and Farley (1998) defined market orientation as “the set of cross-functional processes and activities directed at creating and satisfying customers through continuous needs-estimation. The definitions of the structure constructs were derived from the works of Germain et al. (1994) and Claycomb et al. (1999). Decentralization refers to the hierarchical level within the organization where the authority to make decisions has been delegated. Integration refers to the horizontal integration of the departments within an organization. Formalization is developed which procedures, instructions, and communications are documented. Following Germain et al. (1994), the developed formalized performance control and is used to represent the level of formalization within the organization. Financial performance relates to the organization’s return on sales and investment and level of profitability as compared to the industry average. Marketing performance reflects the organization’s performance in terms of sales and market share growth compared to industry averages.

Structure-related hypotheses

Kohli and Jaworski (1990) suggested a positive link from interdepartmental connectedness to market orientation. Jaworski and Kohli (1993) describe connectedness as “the degree of formal and informal direct contact among employees across departments”. A scale previously used by Claycomb et al. (1999) and Germain et al. (1994) to assess the integration was used for this study. Harris (2000) and Pulendran et al. (2000) supported the link between connectedness and orientation. Since connectedness and integration are defined and based on the Jaworski and Kohli (1993), Harris (2000) and Pulendran et al. (2000) findings, it is supposed that integration across departments promotes a market orientation.

H1. Integration is a significant, positive forecaster of market orientation.

Harris (2000), Pulendran et al. (2000) and Matsuno et al. (2002) did not find significant relationships between formalization and market orientation. This lack of relationship, suggested that the rules related with formalization “may facilitate rather than hinder a market orientation”. Tay and Morgan (2002) identified formalization as a positive forecaster of market orientation. Therefore, formalization is supposed as positively related to market orientation based on the Tay and Morgan (2002) results.

H2. Formalization is a significant, positive forecaster of market orientation.

Jaworski and Kohli (1993) supposed centralization as inversely related to intelligence gathering and positively related responsiveness to intelligence. They suggest centralization to be negatively related to intelligence gathering as supposed, but also suggest it to be negatively related to responsiveness. Harris (2000) also suggest support for the supposed link between centralization and market orientation. The results of the Matsuno et al. (2002), did not support the link. Claycomb et al. (1999) assessed decentralization rather than centralization. The Jaworski and Kohli (1993) and Harris (2000) findings of a negative relation between centralization and market orientation conclude a positive relation between decentralization and market orientation. Based on these findings, it is supposed that decentralization is a positive forecaster of market orientation.

H3. Decentralization is a significant, positive forecaster of market orientation.

Jaworski and Kohli (1993) suggest that, while market orientation was related to organizational performance, market orientation was not related to market share. Matsuno et al. (2002) suggest a significant positive relationship between a market orientation and assess of both financial and marketing performance. Based on this support for the link between orientation and performance, it is supposed that market orientation is a positive forecaster of both financial and marketing performance.

H4. Market orientation is a significant, positive forecaster of financial performance.

H5. Market orientation is a significant, positive forecaster of marketing performance.

Methodology

Data were collected from 346 members of manufacturing organizations using a multi-mode survey methodology described and tested by Schaefer and Dillman (1998). Descriptive statistics and a correlation matrix were generated for all data set variables. The data set was divided into two sub-sets based on time of response, and ANOVA was used to estimate for non-response bias. The structural equation modeling process recommended by Hair et al. (1998) was adopted for testing of the models. The results facilitate estimation of market orientation model as well as each supposed link.

Results

The sample

The data used in this study was collected as that investigated adoption and implementation of a practice (JIT-selling) production and operations strategy. While the study was designed to collect data from JIT-sellers, it was not possible to identify them a priori from a sample frame of manufacturers. Of the 2940 manufacturers in the sample frame, only a small portion were practice JIT-sellers. While the gross response rate for the sample frame of manufacturers was a relatively low 4.09 percent, the appropriate response rate for practice adopters is impossible to estimate but is significantly higher. The multi-mode data collection process included both web based and traditional mailings. Klassen and Jacobs (2001) indicate that web response rates can be expected to be approximately half that of other data collection methodologies, such as mail surveys. In addition to the survey response rate, item completion rate can be used as another assess of survey effectiveness. Klassen and Jacobs (2001). Klassen and Jacobs (2001) define item completion rate as “the proportion of survey items answered relative to all applicable items”. The item completion rate for this study is a relatively high 93 percent. Although Hunt (1990) discussed that credible research should not be rejected solely on the basis of potential non-response bias, the potential for such bias is always a concern when conducting mail surveys. Lambert and Harrington (1990) describe approaches of estimation as comparing the first and second waves and supposing that “non-response bias is non-existent if no differences exist on the survey variables”. They identify the major weakness of this approach as occurring “when there is significant non-response bias since it is difficult to estimate its direction” (Lambert and Harrington, 1990). Following respondents were categorized as responding to either the initial message or follow-up message that was sent two weeks later. Those responding to the initial messages were classified as early responders, those responding to the follow-up messages as late responders. A total of 114 percent (95) of the respondents were categorized as early respondents and 86 percent (73) were categorized as late respondents. All comparisons returned insignificant differences. Because non-respondents have been suggest to illustratively resemble late respondents (Armstrong and Overton, 1977), this finding of equality between early and late respondents indicates that non-response bias has not negatively impacted the assembled data set. A total of 73 percent of the respondents held either line management positions responsible for the firm’s marketing function or marketing/sales related positions, and 27 percent held other management related jobs. The data set used in this analysis is from a broad national sample of Kermanshah province of Iran manufacturers. While the response rate is low, there is no evidence of non-response bias. Additionally, the sample size of 346 is considered sufficient to successfully perform the structural equation modeling analysis (Hair et al. 1998 and Schumacker and Lomax 1996).

Measurement of constructs

Market orientation was assessed using the nine-item market orientation summary scale (MOTRN) developed by Deshpande´ and Farley (1998). Use of the MOTRN scale afforded an independent estimation of the scale’s suitability as a “more economical and managerially related” alternative to the frequently used MARKOR scale (Kohli et al.,
Assessment of formalization, decentralization, and integration were taken directly from the Claycomb et al. (1999) study. Claycomb et al. (1999) indicate that the structure assess were drawn from the work of Miller and Droge (1986) and Miller (1991). The assess of financial performance was taken directly from Claycomb et al. (1999).

Seven scales included multiple items with responses recorded on anchored five-point Likert formats. But formalization/marketing were multiple item scales requiring YES/NO responses. Reliability analysis indicated Cronbach’s alpha or KR-20 (for formalization/marketing) values greater than 0.72. All scales used in this study are listed below.

Market orientation summary scale (alpha = 0.85)

Mean of three, five-point scales with “Strongly disagree” and “Strongly agree.” Deshpande and Farley (1998) reported alpha of 0.89.:

*Our business objectives are driven primarily by customer satisfaction.
* We constantly monitor our level of commitment and orientation to serving customer needs.
* We communicate information about our successful competitor experiences across all business functions.
* Our strategy for competitive advantage is based on customers’ needs.
* We assess customer satisfaction frequently.
* We have regular assess of customer service.
* We are more customer-focused than our competitors.
* I believe this business exists primarily to serve customers.

Integration/mechanisms scale (alpha = 0.72)

Mean of two, five-point scales with “rarely used” and “frequently used.” Germain et al. (1994) and Claycomb et al. (1999) report alphas of 0.71 and 0.74, respectively. In assuring the compatibility among decisions in one area with those in other areas, to what extent are each of the following?

1- Interdepartmental committees, which allow departments to engage in joint decision making.
2- Task forces, which are temporary set up to facilitate interdepartmental collaboration on a specific project.
3- Liaison personnel, whose job it is to coordinate the efforts of several departments for purposes of a project.

Integration/committees scale (alpha = 0.83)

Mean of three seven-point scales with “Rarely used” and “Frequently used.” Germain et al. (1994) report an alpha of 0.81. To what extent is decision making at top levels in your firm characterized by participative, cross-functional committees in which different departments, functions or divisions get together to decide the following classes of decisions?:

1- Distribution service strategy. 2- Marketing strategy. 3- Capital budget decisions.

Formalization/marketing plan scale (KR _ 20 = 0.72).

Mean of three five-point scales with “Rarely used” and “Frequently used.” Germain et al. (1994) and Claycomb et al. (1999) report alphas of 0.86 and 0.83, respectively.

The extent rate performance is compared to industry standards or competitors on the basis of:

1- Functional costs, 2- Customer service, 3- Productivity levels.

Formalization/normal scale (alpha = 0.82)

Sum of ten Yes/No responses.

Germain et al. (1994) report a KR-20 of 0.76. Indicate whether each of the following is dealt with by at least one full-time specialist:

1- Plant facilities design. 2- Material handling. 3- Market research. 4- Sales forecasting.
5- Distribution equipment. 6- Production scheduling. 7- Transportation scheduling.
8- Manufacturing quality control.

Decentralization/scheduling scale (alpha = 0.83)

Mean of two five-point scales with “Decision made above the chief executive” and “Decision made by individual below first level supervisor”. Germain et
al. (1994) and Claycomb et al. (1999) report alphas of 0.61 and 0.64, respectively.

Management level has the authority to make decisions in the following areas?
1- Production scheduling. 2- Delivery dates to customers and priority of orders.

Decentralization/strategic scale (alpha = 0.85).

Mean of six five-point scales with “Decision made above the chief executive” and “Decision made by individual below first level supervisor”. Germain et al. (1994) and Claycomb et al. (1999) report alphas of 0.61 and 0.78, respectively. Which management level has the authority to make decisions in the following areas?
1- Production volume. 2- Goods to be manufactured. 3- Location of factories. 4- Number of factories to operate. 5- Location of field warehouses. 6- Distribution service levels.

Decentralization/marketing scale (alpha = 0.85).

Mean of three five-point scales with endpoints of “Decision made above the chief executive” and “Decision made by individual below first level supervisor”. Claycomb et al. (1999) report an alpha of 0.82:
1- Pricing. 2- Channels of distribution. 3- Advertising/promotion strategy.

Financial performance scale (alpha = 0.92).

Mean of three five-point scales with “Well below industry average” and “Well above industry average”. Claycomb et al. (1999) report an alpha of 0.97:
1- Average profit over the past three years. 2- Profit growth over the past three years. 3- Average return on sales over the past three years.

Marketing performance scale (alpha = 0.95).

Mean of three five-point scales with “Well below: industry average” and “Well above industry average”.
1- Average market share growth over the past three years. 2- Average sales growth over the past three years. 3- Average sales growth over the past three years.

When data for the independent and dependent variables are collected from single informants, common method bias may lead to estimates of the relationships between the variables (Podsakoff and Organ, 1986). As Podsakoff and Organ (1986) suggested, Harman’s one-factor test was used post hoc to examine and develop the potential bias. As prescribed by Harman’s test, all variables were entered into a principal components factor analysis. Substantial common method variance is signaled by the appearance of either a single factor or one “general” factor that explains a majority of the total variance. Results of the factor analysis revealed 11 factors with eigenvalues greater than one, which combined to account for 72 percent of the total variance. While the first factor accounted for 22 percent of the total variance, it did not account for a majority of the variance. Tables 2 and 3 show the descriptive statistics and correlation matrix for the study variables. All structure variables related to integration, and formalization are positively and significantly correlated with market orientation. None of the decentralization variables are significantly correlated with the market orientation variables. The market orientation and performance related variables are all positively and significantly correlated.

Structural equation modeling results

An improved-fit measurement model was identified and used as input for testing the supposed structural model presented in Figure 1. Modification indices and t-values for the supposed model indicated that paths from integration and decentralization to market orientation should be removed. This modified structural model as displayed in Figure 2 includes only formalization as significant and financial and marketing performance as consequences to market orientation. The modified structural model shows good fit characteristics. The P-value of 0.16 related with the chi-square test exceeds the recommended 0.05 value (Schumacker and Lomax, 1996). The value for the root mean square error of approximation (0.047) falls below the suggested 0.05 level (Schumacker and Lomax, 1996). Values for normed fit index (0.945), non-normed fit index (0.979), goodness of fit index (0.9602) and adjusted goodness of fit index (0.921) all exceed the suggested .91 levels (Schumacker and Lomax, 1996). Modification indices for this modified model did not indicate other modifications to improve fit.

Results from the structural equation modeling analysis provide information to evaluate the study
hypotheses. Of the four structure-related hypotheses, support was suggest for formalization-orientation link (H2). The significant path identified from formalization to market orientation returned a standardized estimate of 0.73 with an related t-value of 9.45. Paths from integration, and decentralization to market orientation (H1, and H3) were not significant when estimated as part of the overall model. The results support H4 and H5. The path from market orientation to financial performance is significant in the good fit structural model, returning a standardized estimate of 0.31 with a related t-value of 4.27. The path from market orientation to marketing performance was also identified as significant with a standardized estimate of 0.32 with a related t-value of 4.42.

Conclusions

Kohli and Jaworski (1990) theorized that the structure of an organization may increase the implementation of a market orientation and that a market orientation increase the organization’s performance. Following studies provided inconsistent and inconclusive results in the case of the impact of structure on a market orientation. To resolve these incompatibilities, different assess of the orientation, structure and performance constructs than those previously used were adopted to again test the significant and consequence relationships. Of the structure related constructs, only formalization was suggest to significantly impact market orientation. As expected, market orientation significantly influences both financial and marketing performance.

While the objectives of the study were accomplished, limitations of the study should be noted. First, the study utilized a survey methodology that resulted in a relatively low response rate raising potential non-response bias. While the two waves of responses were compared and no evidence of bias was noted, a more direct estimation of the potential bias utilizing data from a third wave and an intensive follow-up on non-respondents would have strengthened the study. Second, all the data were collected from single informants raising common method bias. Although a test for the bias moderate the collection of independent and dependent variable data from multiple respondents would also have served to improve the study.

Managerial implications

Six significant studies incorporating eight separate samples have now been conducted with the purpose of estimating Kohli and Jaworski’s (1990) proposition that organizational structure influences a firm’s ability to implement a market orientation. This substantive evidence does not support the proposition. None of the structure-orientation links were consistently significant across the samples. This conclusion implies that it is not practicing managers which organizationally adopt a particular structural combination in preparation for implementation of a marketing orientation.

References

Figure 1: Market orientation model with hypothesized relationships

Integration → H1 → Market orientation → H3 → Financial performance

Formalization → H2 → Market orientation

Decentralization → H5 → Marketing performance

Figure 2: Good fit structural model with standardized coefficients and t-value

Chi-square = 35.12, df = 29, p-value = 0.16, RMSEA = 0.036
Table I: Parameter estimates for prior studies related to the structure-orientation-performance model

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<td>-0.13**</td>
<td>-0.17**</td>
<td>(ns)</td>
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<td>Overall performance</td>
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<td>0.334*</td>
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Notes: * Indicates significance at the 0.01 level; ** indicates significance at the 0.05 level; (ns) indicates non-significance

Table 2: Descriptive statistics and correlation matrix for study variables – descriptive statistics

<table>
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<tr>
<th>Variable</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Skewness</th>
<th>Kurtosis</th>
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<tr>
<td>Market orientation (MO)</td>
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Table 3. Descriptive statistics and correlation matrix for study variables – correlation matrix

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*a correlation is significant at the 0.01 level; b correlation is significant at the 0.05 level; c correlation is non-significant