

ANTECEDENTS OF MARKET ORIENTATION IN HIGHER EDUCATION: EMPIRICAL RESULTS FROM FOUR KEY INFORMANT PERSPECTIVES

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ABSTRACT

This study examines the possible impact of selected antecedents (interdepartmental conflict, university administration emphasis, reward system) on individual components (customer orientation, competitor orientation, interfunctional coordination) of market orientation toward students within higher education. Prior research is extended and the variable relationships are examined from four different department chair perspectives (accounting chairs, marketing chairs, males, females).

Intelligence is gathered from survey research using existing scales reworded and validated for higher education. Research objectives and hypotheses are formed and hypotheses are tested using regression analyses to examine the variable relationships for each group of respondents.

Regression results support all hypotheses, with one or more of the selected antecedents shown to significantly impact each of the three market orientation components within each of the four groups that were examined. Regression results were different for each group of key informants.

Results have implications within higher education but also add to existing theory (Kohli and Jaworski 1990), and support concerns by Phillips (1981) and others regarding attentiveness in future research to key informant characteristics such as title and gender.

INTRODUCTION

Market orientation and its positive impact on organizational performance have been explored within the marketing literature, for a variety of business and nonbusiness settings, for decades (Felton, 1959; Kotler and Levy, 1969a; 1969b; Barksdale and Darden, 1971; Lusch and Laczniak, 1987; Hayes, 1989; Miller et al., 1990; Agarwal et al., 2003). The term market orientation refers to the extent that firms achieve the implementation of the marketing concept (McCarthy and Perreault, 1984). From these authors and others, especially Kohli and Jaworski (1990) and Narver and Slater (1990), the marketing concept is described as a philosophy that engenders coordinated organization-wide behaviors and activities aimed at gathering and disseminating information about the marketplace (customers and competitors), then acting on that information. The authors listed above, and others, provide theoretical and empirical support

that implementation of the marketing concept leads generally to higher levels of performance for organizations.

Part of a larger effort, this manuscript builds on previous research within the context of higher education that demonstrates a positive impact of market orientation toward university students on university performance. Note that, importantly, in their efforts toward guiding higher education practitioners toward strategies that lead to higher levels of quality and performance, Baldrige Performance Excellence Program (2019) specifically identifies students as the main customers of higher education (in addition to employers, parents, and others). This research provides an examination of the possible impact of selected antecedents of market orientation (interdepartmental conflict, management emphasis on market orientation, reward system orientation) suggested by Kohli and Jaworski (1990) on each of the three market orientation components (customer orientation, competitor orientation, interfunctional coordination) identified by Narver and Slater (1990). Extending theoretical and empirical research by Kohli and Jaworski (1990), Jaworski and Kohli (1993), and Hammond et al., (2006), the proposed causal relationships are examined within the context of students, within higher education.

Jaworski and Kohli (1993) provide empirical support for the proposed causal relationships in the case of businesses. Hammond et al., (2006) report significant correlations between management emphasis on student market orientation and the student market orientation components in the case of higher education. We seek to extend research into the selected antecedents of market orientation in higher education while also examining differences in perspective between groups of key informants.

Following suggestions from Phillips (1981) and Jaworski et al., (1993), the possible impact of selected key informant (respondent) characteristics on the results is considered within this study. The overall group of department chairs is split by title of the respondent, creating two segments (accounting department chairs and marketing department chairs). The overall group is then split by gender, creating an additional two segments (male department chairs and female department chairs). Acknowledging that each of the segments may exemplify a different perspective on the variables and relationships within the study, descriptive statistics and regression results are reported for each of the four groups, as defined by title and by gender. Phillips also suggests that organizational characteristics may influence results, and previous survey research within higher education business schools has indicated that responses may vary depending on accrediting body affiliation. Accordingly, this manuscript focuses on AACSB university business schools only.

Previous research results are thus revisited and extended to include an analysis of the four key informant perspectives described above regarding the causal relationships surrounding market orientation within higher education. While the primary focus of this research is on those differing perspectives, some of the variables and variable relationships included in this study provide new knowledge as well, not included in earlier research within higher education. We consult t-tests and compare regression results as we consider similarities and differences in judgement of variables and variable relationships between groups of informants.

This research specifically extends theory and findings developed and presented by Phillips (1981), Kohli and Jaworski (1990), and Jaworski et al., (1993). Survey questions are

employed that were initially developed and used by Narver and Slater (1990), Jaworski and Kohli (1993), and Slater and Narver (1994), reworded in the context of university business schools (Hammond et al., 2006). Academic department chairs of AACSB member schools serve as key informants (survey respondents). Department chairs are chosen as the key informants because of their unique position within the higher education hierarchy in most AACSB member business schools. The department chairs have administrative duties that require them to interact with other administrators such as deans and vice-presidents of academic affairs, but unlike these other administrators, most department chairs also teach student classes. Accordingly, due to this combination of roles, department chairs may develop insights toward behaviors and actions of the university that are unique and somewhat different from other faculty members and from other administrators.

LITERATURE REVIEW

Examining literature surrounding the marketing concept and market orientation, and conducting interviews with practitioners and academics, Kohli and Jaworski (1990) describe market orientation in terms of a set of activities and processes that create a “distinct form of sustainable competitive advantage” (p. 17). More specifically, they define market orientation as the extent that organizations incorporate “the organizationwide generation, dissemination, and responsiveness to market intelligence” (p. 3). Kohli and Jaworski (1990) developed a measure of market orientation based on three components (intelligence generation, intelligence dissemination, responsiveness to intelligence), provided an extensive model and propositions surrounding potential antecedents and consequences of market orientation, and followed up with subsequent articles (Jaworski and Kohli, 1993; Kohli et al., 1993) that incorporate their measures and test much of the theory. Jaworski and Kohli (1993) report empirical results that support the hypothesized positive impact of several antecedents (top management emphasis on market orientation, interdepartmental connectedness, reward system orientation toward the market) and the hypothesized negative impact of others (top management risk aversion, interdepartmental conflict, centralization of decision making) on at least one component (intelligence generation, intelligence dissemination, responsiveness) of market orientation. Interestingly, Kohli et al. (1993) note that informant characteristics may influence perception; differences in informants may be important in the measurement of market orientation. They take steps to identify and separate executives in their study, classifying the respondents as either marketing or non-marketing. Results reported in the study demonstrated differences in perception between marketing and non-marketing executives.

Narver and Slater (1990) refer to market orientation as “the organization culture . . . that most effectively and efficiently creates the necessary behaviors for the creation of superior value for buyers and, thus, continuous superior performance” (p. 21). Similarly to Kohli and Jaworski (1990), Narver and Slater built on existing literature and interviews to define market orientation in terms of three behavioral component parts (customer orientation, competitor orientation, interfunctional coordination). They developed scales for each component based on the extent that the organization exhibits certain behaviors and explain that the activities described by Kohli and

Jaworski (intelligence generation, intelligence dissemination, responsiveness) are also included in their scales. Narver and Slater propose those component scales and an overall market orientation scale for use in future research efforts. Several subsequent studies (Narver et al., 1992; Slater and Narver, 1994; Jaworski and Kohli, 1996; Narver et al., 1998; Agarwal et al., 2003) have referenced the Narver and Slater (1990) and Kohli and Jaworski (1990) studies and have employed the measures for further empirical investigation of theory surrounding the marketing concept and market orientation in a variety of contexts.

Importantly, as initially encouraged by Kotler and Levy (1969a; 1969b), researchers and practitioners have expanded the breadth of marketing beyond the limits of business applications. A natural part of that effort is that research and practice continues to test the boundaries of theory surrounding the marketing concept, described by Jaworski and Kohli (1993) as “a cornerstone of marketing thought” (p. 54), expanding the application well beyond business contexts to include a variety of non-profit settings. A firm understanding of the application and benefits of market orientation may be as important today as ever in a wide variety of contexts, given the increasing availability of market data surrounding customers and competitors. An appropriate emphasis within organizations on data analytics and the use of that data to provide greater value to customers and other stakeholders would presumably improve performance for the more market-oriented organizations.

Several authors (Hammond et al., 2006; Hemsley-Brown and Oplatka, 2010; Webster et al., 2010, 2014; Ma and Todorovic, 2011; Arifin, 2016) have extended market orientation research by examining the application within the context of higher education. Hammond et al. (2006) successfully reworded and extended the Narver and Slater (1990) scale to higher education, noting importantly that many of the propositions of the respected Baldrige National Quality Program “Baldrige Education Criteria for Performance Excellence” are encapsulated in the organizational behaviors and activities within the components of the scale. More recently, perhaps in response to the earlier articles, interest in the application of market orientation in higher education has expanded globally to include studies from Lithuania (Carlos and Rodrigues, 2012), India (Baber et al., 2015), Poland and Australia (Rynca and Ziaecian, 2015), South Africa (Mokoena and Manilall, 2017), and others.

As noted above, this research also continues to expand the study to potential differences in perception (Campbell, 1955; Phillips, 1981) based on informant characteristics such as title or gender. As noted above, Jaworski et al. (1993) highlighted differences in perception based on title. Gender studies have become more mainstream in the academic and practitioner literature as more women have entered the professional workforce in both business and higher education. Gray’s (1992) popular book titled *Men are from Mars and Women are from Venus* may arguably have helped to spark this increased interest in gender studies within business and higher education. Examples of past articles on gender differences include findings by Marz et al. (2003) that gender affects managers’ social orientation. Also, Webster et al. (2004) found differences in expressions of self-confidence in financial analysis, and Brahnham (2005) found gender differences in conflict resolution methods. Additional gender studies include ethical judgments (Marta et al., 2008; Lund, 2008), differences in dealing with competition (Cotton et al., 2015), and differences in male and female decision making (Caprino, 2016).

RESEARCH OBJECTIVES

Two general research objectives are developed, and multiple hypotheses are formed for testing each objective. As introduced above and explained further in the methodology section, the research objectives follow from theory and empirical results published by Kohli and Jaworski (1990), Jaworski and Kohli (1993), and Hammond et al. (2006). The objectives also incorporate results from Phillips (1981) and Jaworski et al. (1993) regarding differences in informant judgements of organizational behavior based on informant characteristics.

Specifically, both objectives and all hypotheses include the examination of the possible impact of selected antecedents (interdepartmental conflict, management emphasis on market orientation, reward system orientation) on market orientation within the context of higher education, focusing on the student market within AACSB-accredited business schools. The Narver and Slater (1990) conceptualization of market orientation is employed with the three market orientation components of customer orientation, competitor orientation, and interfunctional coordination. As outlined in the methodology section, all scales are reworded to apply toward students within higher education (Hammond et al., 2006). Accordingly, each hypothesis formed and described below focuses on one of the three components of student market orientation as the dependent variable and the proposed antecedents as independent variables. The hypotheses are tested with regression analyses.

Objective 1: Splitting the total group of respondents into two groups based on title (accounting department chairs, marketing department chairs), examine the impact of selected antecedents on market orientation toward students within higher education for each of the two groups and then compare results for the two groups.

As noted above, following suggestions by Phillips (1981) and Jaworski et al. (1993), informants are split into two groups based on title (accounting department chairs or marketing department chairs) of the respondents. The university department chair respondents (marketing and accounting) are not a perfect match for the executives (marketing and non-marketing) surveyed in the Jaworski et al. (1993) study, but the title differences may create similarly different judgments of the organizational behaviors and activities. Though background and education vary considerably among department chairs that are responsible for the marketing discipline (usually along with other disciplines in the department), they may arguably be more likely (than accounting department chairs) to be aware of the market directed behaviors under investigation. Relationships between the variables, then, are anticipated to be somewhat different based on differences in title (as empirically demonstrated by Jaworski et al. (1993)).

Each of the hypotheses outlined within this objective includes all of the proposed antecedents (interdepartmental conflict, management emphasis on market orientation, reward system orientation), and focuses on one of the three components of student market orientation for respondents that are either accounting department chairs or marketing department chairs. Impact of each antecedent variable is hypothesized as either positive or negative based on previous

research by Kohli and Jaworski (1990), Jaworski and Kohli (1993), and Hammond et al. (2006). The resulting six hypotheses are presented below.

As determined by accounting department chair knowledge and judgement of organizational behaviors and actions within AACSB-accredited business schools,

(H1) The customer orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H2) The competitor orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H3) The interfunctional coordination component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

As determined by marketing department chair knowledge and judgement of organizational behaviors and actions within AACSB-accredited business schools,

(H4) The customer orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H5) The competitor orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H6) The interfunctional coordination component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

Objective 2: Splitting the total group of respondents into two groups based on gender (males and females), examine the impact of selected antecedents on market orientation toward students within higher education for each of the two groups and then compare results for the two groups.

As described above, gender is the second key informant characteristic to be examined in this study. As noted above, interest seems to be growing steadily in gender studies and several research efforts demonstrate the influence of gender on perceptions of professionals.

Findings have indicated that gender affects managers' social orientation (Marz et al., 2003), and gender differences exist between expressions of self-confidence in financial analysis (Webster et al., 2004) and methods of conflict resolution (Brahnam, 2005). Additional gender studies address ethical judgments (Marta et al., 2008; Lund, 2008) and differences in dealing with competition (Cotton et al., 2015).

As determined by male department chair knowledge and judgement of organizational behaviors and actions within AACSB-accredited business schools,

(H7) The customer orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H8) The competitor orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H9) The interfunctional coordination component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

As determined by female department chair knowledge and judgement of organizational behaviors and actions within AACSB-accredited business schools,

(H10) The customer orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H11) The competitor orientation component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

(H12) The interfunctional coordination component of student market orientation is impacted (a) negatively by interdepartmental conflict within the university business school, (b) positively by university administration emphasis on student market orientation, and (c) positively by reward system orientation toward students.

METHODOLOGY

Data for the study were collected by way of a mailed survey. Surveys were mailed to 1538 department chairs of AACSB member schools located in the United States, with a follow-up mailing a few weeks later. As key informants (Campbell, 1955; Kumar et al., 1993), the department chairs were asked to complete the surveys and return them in business reply

envelopes that were provided. Of the total survey instruments mailed, 198 were returned and 195 (13%) were completed sufficiently and included in the analyses by title; 194 (13%) were included in the analyses by gender. All survey items were measured with a seven-point response scale, ranging from one (1) “not at all” to seven (7) “to an extreme extent.” The survey questions inquired regarding organizational behaviors and activities.

Narver and Slater’s (1990) market orientation (MKTOR) scale (described above) consists of several questions addressing specific behaviors and activities that measure the extent that the organization applies the marketing concept. Three subscales are used in this study to measure the market orientation components (customer orientation, competitor orientation, interfunctional coordination) using questions reworded for university business schools by Hammond et al. (2006). In spite of suggestions by Ma and Todorovic (2011), we choose this scale that envisions students as the primary customers of higher education (as also suggested by Baldrige Performance Excellence Program).

University administration emphasis on student market orientation is measured using the Jaworski and Kohli (1993) top management emphasis scale as reworded for higher education by Hammond et al. (2006). Similarly, the interdepartmental conflict scale items from Jaworski and Kohli (1993) are reworded and employed within this study. We were able to reword and use only four of the original six reward system orientation items from the Jaworski and Kohli (1993) of study. The items used (which describe four aspects of reward systems that are oriented externally, toward the market) describe the extent that the business school exhibits a faculty/staff focus on competition, use of student surveys for evaluating faculty, strength of student relationships for evaluating faculty, and use of student assessments to influence administrators’ pay. Two of the original reward system items were discarded as inapplicable to the higher education context.

All scales are subjected to reliability analysis and exploratory factor analysis prior to further analysis (Churchill, 1979; Peter, 1979). The four reward system orientation items demonstrate poor scale reliability (Cronbach’s Alpha .405 and item-to-total correlations from .117 to .466) and unsatisfactory factor loadings (two items with loadings below .40). All other proposed scales demonstrate strong Cronbach’s Alpha scores (Table 1) and satisfactory factor loadings ranging from .40 to .77.

Variables / Items	Item-to-Total Corr.	Alpha	CFA Regression Weights and Model Fit
Student Market Orientation			
Customer Orientation Component (Scale)			
Student satisfaction objectives	.392	.779	.450
Measure student satisfaction	.368		.400
Create student value	.611		.700
Student commitment	.676		.780
After-enrollment service	.528		.646
Understand student needs	.613		.688

TABLE 1			
Reliability Statistics and Confirmatory Factor Analysis Results			
Variables / Items	Item-to-Total Corr.	Alpha	CFA Regression Weights and Model Fit
Competitor Orientation Component (Scale)		.759	
Student recruiters share competitor information	.489		.546
Respond rapidly to competitors' actions	.642		.776
Administrators discuss competitors' strategies	.603		.707
Target opportunities for competitive advantage	.495		.654
Interfunctional Coordination Component (Scale)		.756	
Entire institution contributes to student value	.604		.704
Staff and faculty meet with prospective students	.478		.486
Functional integration in strategy	.550		.597
Information shared among functions	.452		.613
Share resources with other units	.528		.644
			df=84, N=194 CMIN/DF=1.845 (p .000) SRMR=.0572 TLI=.913, CFI=.931, IFI=.932 RMSEA=.066 (.050-.082)
Interdepartmental Conflict (Scale)		.817	
Most departments get along well (reverse scored)	.669		.823
When members of several depts. get together, tensions frequently run high	.431		.414
People generally dislike interacting with other depts.	.633		.696
Faculty/staff feel that goals of departments are in harmony (reverse scored)	.523		.589
Little or no interdepartmental conflict (reverse scored)	.562		.634
	.541		.504
Protecting departmental turf is a way of life	.552		.542
Department objectives are incompatible with other depts.			df=9, N=194 CMIN/DF=4.612 (p .000) SRMR=.0566 TLI=.838, CFI=.930, IFI=.932 RMSEA=.137 (.096-.180)
Univ. Admin. Emphasis on Student MO (Scale)		.806	
Sensitive to activities of competitors	.604		.711
Gear up now for future needs of students	.722		.867
Serving students is important	.555		.619
Adapting to market trends	.609		.664
			df=2, N=194 CMIN/DF=2.488 SRMR=.0271 TLI=.963, CFI=.988, IFI=.988 RMSEA=.088 (.000-.188)

Subsequent calculation and examination of correlation coefficients for the reward system orientation items with the three proposed dependent variables indicate statistically significant correlations (significance .05 or better) for all four items with one or more of the proposed dependent variables. Based on these results and theory from Kohli and Jaworski (1990) and Jaworski and Kohli (1993), we include the items in the study as individual measures of certain aspects of reward systems that may impact student market orientation within higher education.

We employ SPSS-AMOS (Version 25) for confirmatory factor analyses (Anderson and Gerbing, 1988; Bagozzi and Yi, 1988) of the three remaining scales (student market orientation, interdepartmental conflict, university administration emphasis on student market orientation). Results (Table 1) indicate satisfactory factor loadings and generally acceptable to excellent model fit for the scales (Wheaton et al., 1977; Bentler and Bonett, 1980; Marsh and Hocevar, 1985; Bentler, 1990; Browne and Mels, 1992; Browne and Cudeck, 1993). Standardized regression weights are provided for each item (Table 1), along with relative chi-square (CMIN/DF), the comparative fit index (CFI), Tucker-Lewis Index (TLI), and incremental fit index. We also report the standardized root mean square residual (SRMR) and root mean square error of approximation (RMSEA) with its 90% confidence interval. The student market orientation model was conducted specifying the three components, allowing the components to correlate. The correlation coefficients ranged from .798 to .844, supporting convergent validity for the one-dimensional three component market orientation construct as determined by Narver and Slater (1990) and Hammond et al. (2006).

We proceed to provide descriptive statistics and t-tests as described below and in Table 2, to better understand differences that may exist in responses per informant group. We then address the objectives/hypotheses by calculating and examining regression analyses for twelve models (one for each hypothesis).

RESULTS

Descriptive Statistics and Differences in Variable Means by Informant Group

Descriptive statistics are calculated and provided for all variables (Table 2), for respondents overall and for each of the four segments of respondents (split by title and by gender). Note that the 195 total respondents consist of 101 accounting department chairs and 94 marketing department chairs. Splitting total respondents by gender, the large majority were male (149 male; 46 female). Recall that these response scales range from a low of “1” to a high of “7,” with “4” as the midpoint. Note from the table that the mean responses for two variables (the customer orientation component of student market orientation; reward system use of student surveys for evaluating faculty) are above the midpoint overall and for each segment. Mean responses for all other variables are consistently near or below the midpoint overall and for each segment.

TABLE 2 Descriptive Statistics	
	Mean (N) <i>Std Dev</i>
OVERALL SAMPLE	
Student Market Orientation - Customer Orientation	4.58 (195) .96
Student Market Orientation - Competitor Orientation	3.43 (195) 1.17
Student Market Orientation – Interfunctional Coordination	3.84 (195) 1.12
Interdepartmental Conflict	2.90 (195) 1.16
Univ. Admin. Emphasis on Student Market Orientation	3.66 (195) 1.29
Reward System Orientation toward Students	
- Faculty and Staff Focus on Competition (Q47)	3.44 (195) 1.53
- Use of Student Surveys for Evaluating Faculty (Q53)	5.73 (195) 1.67
- Strength of Student Relationships Used in Evaluating Faculty (Q65)	3.91 (195) 1.58
- Student Assessments Influence Administrators' Pay (Q74)	2.09 (195) 1.61
ACCOUNTING DEPARTMENT CHAIRS	
Student Market Orientation - Customer Orientation	4.44 (101) .98
Student Market Orientation - Competitor Orientation	3.38 (101) 1.28
Student Market Orientation – Interfunctional Coordination	3.70 (101) 1.16
Interdepartmental Conflict	3.03 (101) 1.08
Univ. Admin. Emphasis on Student Market Orientation	3.66 (101) 1.39
Reward System Orientation toward Students	
- Faculty and Staff Focus on Competition (Q47)	3.40 (101) 1.59
- Use of Student Surveys for Evaluating Faculty (Q53)	5.68 (101) 1.64
- Strength of Student Relationships Used in Evaluating Faculty (Q65)	3.81 (101) 1.60
- Student Assessments Influence Administrators' Pay (Q74)	2.04 (101) 1.52
MARKETING DEPARTMENT CHAIRS	
Student Market Orientation - Customer Orientation	4.73 (94) .91
Student Market Orientation - Competitor Orientation	3.48 (94) 1.03
Student Market Orientation – Interfunctional Coordination	3.99 (94) 1.07
Interdepartmental Conflict	2.76 (94) 1.24
Univ. Admin. Emphasis on Student Market Orientation	3.67 (94) 1.18
Reward System Orientation toward Students	
- Faculty and Staff Focus on Competition (Q47)	3.49 (94) 1.46
- Use of Student Surveys for Evaluating Faculty (Q53)	5.78 (94) 1.70
- Strength of Student Relationships Used in Evaluating Faculty (Q65)	4.02 (94) 1.54
- Student Assessments Influence Administrators' Pay (Q74)	2.15 (94) 1.71
MALE DEPARTMENT CHAIRS	
Student Market Orientation - Customer Orientation	4.58 (149) .95
Student Market Orientation - Competitor Orientation	3.41 (149) 1.18
Student Market Orientation – Interfunctional Coordination	3.81 (149) 1.12
Interdepartmental Conflict	2.88 (149) 1.08
Univ. Admin. Emphasis on Student Market Orientation	3.68 (149) 1.31
Reward System Orientation toward Students	
- Faculty and Staff Focus on Competition (Q47)	3.43 (149) 1.53

TABLE 2 Descriptive Statistics	
	Mean (N) <i>Std Dev</i>
- Use of Student Surveys for Evaluating Faculty (Q53)	5.79 (149) 1.55
- Strength of Student Relationships Used in Evaluating Faculty (Q65)	3.81 (149) 1.52
- Student Assessments Influence Administrators' Pay (Q74)	2.23 (149) 1.72
FEMALE DEPARTMENT CHAIRS	
Student Market Orientation - Customer Orientation	4.61 (45) .98
Student Market Orientation - Competitor Orientation	3.48 (46) 1.13
Student Market Orientation – Interfunctional Coordination	3.92 (46) 1.14
Interdepartmental Conflict	2.97 (46) 1.41
Univ. Admin. Emphasis on Student Market Orientation	3.62 (46) 1.23
Reward System Orientation toward Students	
- Faculty and Staff Focus on Competition (Q47)	3.48 (46) 1.52
- Use of Student Surveys for Evaluating Faculty (Q53)	5.52 (46) 2.00
- Strength of Student Relationships Used in Evaluating Faculty (Q65)	4.26 (46) 1.72
- Student Assessments Influence Administrators' Pay (Q74)	1.63 (46) 1.08

T-tests are calculated to compare variable means between segments of respondents (accounting department chairs vs. marketing department chairs; males vs. females). The results do represent statistically significant differences (at the .05 level) for two of the variables. Judgements of the customer orientation component are significantly different ($t= 2.134$; sig. .034) when comparing responses from accounting and marketing department chairs, and are significantly different for one of the reward system orientation variables (student assessments affect administrators' pay; $t=2.838$; sig. .005) when comparing responses from male and female department chairs.

Objective 1: Splitting the total group of respondents into two groups based on title (accounting department chairs, marketing department chairs), examine the impact of selected antecedents on market orientation toward students within higher education for each of the two groups and then compare results for the two groups.

Regression analyses are calculated and reported (Table 3) that address each of the six hypotheses (H1 – H6) specified within this objective (one analysis for each of the three components of student market orientation for accounting department chairs and the same for marketing department chairs). Results of the regression analyses indicate that each of the proposed antecedent variables (interdepartmental conflict, university administration emphasis on market orientation, reward system orientation) impacts one or more components of student market orientation for both groups (accounting department chairs and marketing department chairs). Additionally, all six of the hypotheses included within this objective are at least partially supported by the results of the analyses.

Results for accounting department chairs indicate support for hypotheses 1(a), 1(b), 2(b), 3(a), and 3(b). Only hypothesis 2(a) is not supported. Hypotheses 1(c), 2(c), and 3(c) are

partially supported, with three reward system orientation variables shown to affect competitor orientation, only one of the four proposed reward system variables shown to impact student customer orientation, and a different reward system variable shown to impact interfunctional coordination.

Considering results for the marketing department chair group, hypotheses 5(b), 6(a), and 6(b) are supported and hypotheses 4(a), 4(b), and 5(a) are not supported. Hypotheses 4(c), 5(c), and 6(c) are partially supported, with one reward system orientation variable shown to affect all three market orientation components and an additional reward system variable additionally affecting the student customer orientation component. See Tables 3 and 4 for details.

With three proposed dependent variables and six proposed independent antecedent variables, 18 causal relationships were examined for each informant group. Ten of the relationships were supported by analyses of data from the accounting chairs (in full or partial support of eight of the nine hypotheses). Seven of the 18 relationships were supported by analyses from the marketing chairs (in support of only six of the hypotheses).

Comparisons of results for the two groups reveals that they are similar in some regards but very different in others (Tables 3 and 4). Strikingly different from accounting chair results, for example, neither interdepartmental conflict nor university administration emphasis are demonstrated to impact customer orientation in the marketing chair results. In fact, all three statistically significant independent variables in the accounting chair model for customer orientation are different from the two significant independent variables in the marketing chair model. (Recall also from the t-tests comparing judgements by these informant groups that the customer orientation variable is significantly different for the two groups.)

TABLE 3
Tests for Main Effects – Results of Regression Analyses
Regression Coefficients (Sign.)

Independent Variables	Dependent Variables		
	Student MO - Customer Orientation	Student MO - Competitor Orientation	Student MO - Interfunctional Coordination
ACCOUNTING DEPARTMENT CHAIRS	<u>Hypothesis 1</u>	<u>Hypothesis 2</u>	<u>Hypothesis 3</u>
Interdepartmental Conflict	-.279 (.002)	-.082 (.330)	-.337 (.000)
Univ. Admin. Emphasis on Student MO	.414 (.000)	.338 (.000)	.383 (.000)
Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	.186 (.041)	.340 (.000)	-.004 (.966)
- Student Surveys for Evaluating Faculty	-.155 (.120)	-.072 (.453)	-.072 (.460)
- Strength of Student Relationships Used in Evaluating Faculty	.173 (.060)	.178 (.047)	.306 (.001)
- Student Assessments Influence Administrators’ Pay	.038 (.641)	.178 (.024)	.070 (.378)
F (sign.)	12.44 (.000)	14.31 (.000)	13.04 (.000)
Adjusted R ²	.407	.444	.419

TABLE 3			
Tests for Main Effects – Results of Regression Analyses			
Regression Coefficients (Sign.)			
Independent Variables	Dependent Variables		
	Student MO - Customer Orientation	Student MO - Competitor Orientation	Student MO - Interfunctional Coordination
MARKETING DEPARTMENT CHAIRS	<u>Hypothesis 4</u>	<u>Hypothesis 5</u>	<u>Hypothesis 6</u>
Interdepartmental Conflict	-.139 (.151)	-.080 (.399)	-.238 (.013)
Univ. Admin. Emphasis on Student MO	.156 (.128)	.416 (.000)	.364 (.000)
Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	.027 (.779)	.142 (.136)	.091 (.334)
- Student Surveys for Evaluating Faculty	-.077 (.471)	.043 (.680)	.039 (.704)
- Strength of Student Relationships Used in Evaluating Faculty	.364 (.001)	-.042 (.703)	.035 (.748)
- Student Assessments Influence Administrators' Pay	.235 (.016)	.223 (.019)	.186 (.047)
F (sign.)	7.00 (.000)	7.74 (.000)	8.01 (.000)
Adjusted R ²	.281	.303	.312
MALE DEPARTMENT CHAIRS	<u>Hypothesis 7</u>	<u>Hypothesis 8</u>	<u>Hypothesis 9</u>
Interdepartmental Conflict	-3.454 (.001)	-.122 (.116)	-.318 (.000)
Univ. Admin. Emphasis on Student MO	3.517 (.001)	.319 (.000)	.361 (.000)
Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	1.623 (.107)	.197 (.017)	.014 (.864)
- Student Surveys for Evaluating Faculty	-1.170 (.244)	-.050 (.543)	-.143 (.073)
- Strength of Student Relationships Used in Evaluating Faculty	3.373 (.001)	.117 (.144)	.246 (.002)
- Student Assessments Influence Administrators' Pay	2.368 (.019)	.207 (.004)	.094 (.182)
F (sign.)	15.99 (.000)	13.63 (.000)	15.40 (.000)
Adjusted R ²	.378	.339	.369
FEMALE DEPARTMENT CHAIRS	<u>Hypothesis 10</u>	<u>Hypothesis 11</u>	<u>Hypothesis 12</u>
Interdepartmental Conflict	-.178 (.859)	-.042 (.704)	-.211 (.077)
Univ. Admin. Emphasis on Student MO	2.991 (.005)	.528 (.000)	.408 (.001)
Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	.173 (.864)	.416 (.000)	-.018 (.869)
- Student Surveys for Evaluating Faculty	-.225 (.824)	-.013 (.923)	.433 (.005)
- Strength of Student Relationships Used in Evaluating Faculty	.829 (.412)	-.018 (.892)	-.115 (.413)
- Student Assessments Influence Administrators' Pay	.575 (.568)	.215 (.041)	.220 (.046)
F (sign.)	2.40 (.046)	11.26 (.000)	9.39 (.000)
Adjusted R ²	.160	.578	.528

Several of the reward system variables demonstrate results (in terms of statistical significance) in the regression models for the two groups, though those results are at times different for the two informant groups. Regarding similarities, notably, use of student surveys for evaluating faculty demonstrates no impact on any component of student market orientation for either group. This is the only antecedent variable that behaves consistently the same (across all three dependent variables) for the two informant groups. See Table 4 for a comparison of the hypotheses results, in terms of support or nonsupport, for the two groups included in this objective.

Objective 2: Splitting the total group of respondents into two groups based on gender (males and females), examine the impact of selected antecedents on market orientation toward students within higher education for each of the two groups and then compare results for the two groups.

As with Objective 1, the hypotheses (H7 – H12) associated with Objective 2 are all at least partially supported by the results of the regression analyses (Tables 3 and 4). Similarities between the two groups are indicated by the results. Notably, university administration emphasis on student market orientation is demonstrated by regression analyses for both males and females to (statistically significantly) positively impact all three components of market orientation. Regression results also demonstrate the same (statistically significant) antecedents of the competitor orientation component for both groups (males and females). However, other than university administration emphasis on market orientation, regression results for the other two components (customer orientation and interfunctional coordination) are very different for the two gender groups.

Independent Variables	Dependent Variables		
	Student MO - Customer Orientation	Student MO - Competitor Orientation	Student MO - Interfunctional Coordination
ACCOUNTING DEPARTMENT CHAIRS	<u>Hypothesis 1</u>	<u>Hypothesis 2</u>	<u>Hypothesis 3</u>
(a) Interdepartmental Conflict	SUPPORT	NONSUPPORT	SUPPORT
(b) Univ. Admin. Emphasis on Student MO	SUPPORT	SUPPORT	SUPPORT
(c) Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	SUPPORT	SUPPORT	NONSUPPORT
- Student Surveys for Evaluating Faculty	NONSUPPORT	NONSUPPORT	NONSUPPORT
- Strength of Student Relationships Used in Evaluating Faculty	NONSUPPORT	SUPPORT	SUPPORT
- Student Assessments Influence Administrators' Pay	NONSUPPORT	SUPPORT	NONSUPPORT

MARKETING DEPARTMENT CHAIRS	<u>Hypothesis 4</u>	<u>Hypothesis 5</u>	<u>Hypothesis 6</u>
(a) Interdepartmental Conflict	NONSUPPORT	NONSUPPORT	SUPPORT
(b) Univ. Admin. Emphasis on Student MO	NONSUPPORT	SUPPORT	SUPPORT
(c) Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	NONSUPPORT	NONSUPPORT	NONSUPPORT
- Student Surveys for Evaluating Faculty	NONSUPPORT	NONSUPPORT	NONSUPPORT
- Strength of Student Relationships Used in Evaluating Faculty	SUPPORT	NONSUPPORT	NONSUPPORT
- Student Assessments Influence Administrators’ Pay	SUPPORT	SUPPORT	SUPPORT
MALE DEPARTMENT CHAIRS	<u>Hypothesis 7</u>	<u>Hypothesis 8</u>	<u>Hypothesis 9</u>
(a) Interdepartmental Conflict	SUPPORT	NONSUPPORT	SUPPORT
(b) Univ. Admin. Emphasis on Student MO	SUPPORT	SUPPORT	SUPPORT
(c) Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	NONSUPPORT	SUPPORT	NONSUPPORT
- Student Surveys for Evaluating Faculty	NONSUPPORT	NONSUPPORT	NONSUPPORT
- Strength of Student Relationships Used in Evaluating Faculty	SUPPORT	NONSUPPORT	SUPPORT
- Student Assessments Influence Administrators’ Pay	SUPPORT	SUPPORT	NONSUPPORT
FEMALE DEPARTMENT CHAIRS	<u>Hypothesis 10</u>	<u>Hypothesis 11</u>	<u>Hypothesis 12</u>
(a) Interdepartmental Conflict	NONSUPPORT	NONSUPPORT	NONSUPPORT
(b) Univ. Admin. Emphasis on Student MO	SUPPORT	SUPPORT	SUPPORT
(c) Reward System Orientation – Student Market			
- Faculty and Staff Focus on Competition	NONSUPPORT	SUPPORT	NONSUPPORT
- Student Surveys for Evaluating Faculty	NONSUPPORT	NONSUPPORT	SUPPORT
- Strength of Student Relationships Used in Evaluating Faculty	NONSUPPORT	NONSUPPORT	NONSUPPORT
- Student Assessments Influence Administrators’ Pay	NONSUPPORT	SUPPORT	SUPPORT

TABLE 5		
Respondent Demographics		
TOTAL SAMPLE (196)	Mean (N)	Std. Deviation
Years of Experience at this University	15.31 (188)	8.77
Years of Experience as Department Chair	5.15 (190)	4.46
Highest Degree Completed: 1 Bachelor, 18 Master, 175 Doctorate	-	-
Academic Major: 58 Mktg, 76 Acctg, 18 Mgmt, 6 Econ, 5 Fin,	-	-
9 Law/Tax, 12 Other Business or MBA, 11 Nonbusiness	-	-
Gender: 149 Males, 47 Females	-	-

ACCOUNTING DEPT. CHAIRS (102)	Mean (N)	Std. Deviation
Years of Experience at this University	16.14 (99)	8.54
Years of Experience as Department Chair	5.56 (99)	4.75
Highest Degree Completed: 1 Bachelor, 17 Master, 83 Doctorate	-	-
Academic Major: 76 Acctg, 2 Mgmt, 4 Econ, 4 Fin, 6 Law/Tax, 6 Other Business or MBA, 3 Nonbusiness	-	-
Gender: 78 Males, 23 Females	-	-

MARKETING DEPT. CHAIRS (94)	Mean (N)	Std. Deviation
Years of Experience at this University	14.38 (89)	8.98
Years of Experience as Department Chair	4.70 (91)	4.10
Highest Degree Completed: 1 Master, 92 Doctorate	-	-
Academic Major: 58 Mktg, 16 Mgmt, 2 Econ, 1 Fin, 3 Law/Tax, 6 Other Business or MBA, 8 Nonbusiness	-	-
Gender: 71 Males, 24 Females	-	-

MALE DEPT. CHAIRS (149)	Mean (N)	Std. Deviation
Years of Experience at this University	15.94 (144)	9.27
Years of Experience as Department Chair	5.46 (143)	4.59
Highest Degree Completed: 1 Bachelor, 14 Master, 133 Doctorate	-	-
Academic Major: 43 Mktg, 58 Acctg, 14 Mgmt, 6 Econ, 4 Fin, 7 Law/Tax, 8 Other Business or MBA, 9 Nonbusiness	-	-

FEMALE DEPT. CHAIRS (46)	Mean (N)	Std. Deviation
Years of Experience at this University	13.08 (43)	6.54
Years of Experience as Department Chair	4.21 (46)	3.96
Highest Degree Completed: 4 Master, 42 Doctorate	-	-
Academic Major: 15 Mktg, 18 Acctg, 4 Mgmt, 2 Law/Tax, 1 Fin, 4 Other Business or MBA, 2 Nonbusiness	-	-

Accordingly, for male respondents (Tables 3 and 4), hypotheses 7(a), 7(b), 8(b), 9(a), and 9(b) are supported and hypothesis 8(a) is not supported. Hypotheses 7(c), 8(c), and 9(c) are partially supported, with multiple reward system orientation variables impacting the student market orientation components.

Regarding female respondents (Tables 3 and 4), regression analyses demonstrate support for hypotheses 10(b), 11(b), and 12(b), fail to demonstrate support for hypotheses 10(a), 11(a), and 12(a), and partially support 10(c), 11(c), and 12(c). Again, results for this group are considerably different than results for males. For example, one of the reward system orientation variables (student surveys used to evaluate faculty) failed to indicate statistical significance as

an antecedent to any component of market orientation for the male group (or for accounting chairs or for marketing chairs). That variable, however, is indicated by responses from females to be a statistically significant positive antecedent to interfunctional coordination.

In addition to title and gender, demographic data is provided for total respondents and for each segment (accounting department chairs, marketing department chairs, males, females), for informational purposes (Table 5). Specifically, data regarding mean years of experience and educational background are provided. The additional demographic data help to provide a better understanding of the respondent groups and differences that may exist between the groups. Slightly greater levels of experience in certain segments (accounting chairs and males) may help to explain some of the differences in the findings. Likewise, differences in terminal degrees of the department chairs (which incidentally include several business and nonbusiness disciplines outside of accounting and marketing) may also help to explain differences in the findings.

CONCLUSIONS

The research objectives are met; results of the tests of hypotheses and differences in the results per group are described above and provided in Tables 3 and 4. The selected antecedents of market orientation (interdepartmental conflict, management emphasis on market orientation, reward system orientation) suggested by Kohli and Jaworski (1990) are all found to impact each of the three market orientation components (customer orientation, competitor orientation, interfunctional coordination) identified by Narver and Slater (1990), as applied toward students within higher education. In some cases, the statistically significant causal effect is found only for certain segments of the informants (with segmentation based on title or gender). The differences in findings for different segments within this study support suggestions from Phillips (1981) and Jaworski et al. (1993) that informant characteristics may influence their responses and thus may impact the variable measures and other factors within studies that rely on key informants.

Results have implications for student recruitment and retention, competitor orientation, interfunctional coordination, conflict management, administrative planning/emphasis, and intelligence within the university. Specifically, three key results should influence or re-enforce existing actions regarding students markets: (1) Interdepartmental conflict reduces student market orientation, (2) University administration emphasis on student market orientation increases student market orientation, and (3) Market focused reward systems generally increase student market orientation. Universities should clearly be interested in anything that increases student market orientation, assuming they accept the premise and growing empirical evidence from academics and practitioners that higher levels of market orientation in turn lead to greater levels of performance. Accordingly, universities should strive to reduce interdepartmental conflict, emphasize student market orientation from all levels of the organization, and incorporate (as possible) considerations of the student market when designing reward systems for faculty, staff, and administration. A greater awareness of differences in perspective could also assist decision makers in responding to intelligence that may be gathered within their own university.

More broadly, results from this research add to existing research suggesting that market orientation studies in business may have applicability to higher education. Practitioners within higher education should increasingly accept findings from business and other sectors of the economy that may impact market orientation also within higher education.

Results of this study also confirm or disconfirm that the scales are reliable in the context of higher education. Note that even the reward system items (determined to be unreliable as a scale) appear to be useful in the higher education context, demonstrating statistical significance as measures of individual dimensions of reward system orientation within the regression models of this study. Though the items do not work together reliably as a scale, they are each indicated to capture a behavior or activity that is a relevant antecedent to at least one of the components of student market orientation, from at least one of the tested perspectives.

As described in Table 2, the total sample is weighted more heavily toward accounting chairs than marketing chairs and weighted much more heavily toward males than females. Any differences in judgment stemming from title differences or gender differences, then, could logically skew the overall results. If this study had demonstrated no differences between the groups, we could be more confident in the results for total respondents. However, since statistically significant differences do exist based on title and gender (Table 3), results support concerns of Phillips (1981) regarding informant bias and the analyses within each segment arguably become more important. Obviously, focusing solely on results for total respondents may be misleading in this case due to the underrepresentation of certain groups.

Several unanswered questions are raised by this study regarding the differences in regression results for the segments of respondents included in the study. For example, which group (if any) shows the best judgement? Who is correct?

Regarding experience, should we assume that the groups of respondents with higher mean levels of experience (accounting chairs and males) and presumably greater levels of institutional knowledge, are more accurate in their assessment of behaviors and activities throughout the university and within the department/school? Alternatively, should we suspect that the relatively less experienced groups of respondents are less likely to respond with “the way things have always been” or the way things were historically, and may be more likely to be aware of the way things are currently?

LIMITATIONS, OBSERVATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

The findings of this study further demonstrate that theory and empirical research surrounding market orientation within businesses may be appropriately applied to university business schools. Readers may be able to generalize the results to others within higher education and possibly also to nonbusiness organizations outside of higher education. We urge caution, however, in applying the findings due to the limitations of the sampling frame (AACSB member schools only, located in the United States).

Results of this study indicate that respondent demographics lead to differences in judgments of organizational behaviors and activities specifically in the case of title and gender of the department chair respondent. Regarding title, a limitation is that we surveyed department

chairs only. Employees at other levels (vice presidents or vice chancellors for academics, deans, faculty) may have different perceptions. Accordingly, results of the study might be different if examined from other levels of the organization.

We do not segment respondents by experience or educational background in this analysis. We also do not include other demographic data (such as experience prior to the current university inside or outside of academia) that may be relevant. Understandably, as noted by Phillips (1981), there may well be other informant demographics not considered within this study that impact judgment of the respondents.

Though caution is encouraged, the results provide significant guidance for future research regarding gender differences, market orientation and its antecedents generally and especially within higher education, and research methods involving key informants. The results strongly support assertions by Phillips (1981) and Jaworski et al., (1993), for example, that key informant characteristics matter and should be considered in survey research.

Regarding differences in results for accounting chairs and marketing chairs, should we consider that marketing department chairs (especially those with terminal degrees in marketing) are likely to have a greater knowledge of and respect for the marketing concept and market orientation, and are thus more aware of the behaviors and activities thought to indicate higher levels of market orientation? Though we did not include the terms “marketing,” “marketing concept,” or “market orientation” in the survey, marketing chairs are likely more familiar with the concepts included in the study. However, when considering differences in results from these two groups of department chairs whose responsibilities are essentially the same, should we assume that either perspective is “right?”

Males and females apparently, per the results of this study and earlier research as noted above, see the world differently. Again, which group shows the better judgement regarding the institutional behaviors and activities investigated in this study? To the extent that perspectives differ significantly, who is “right?”

Perhaps each respondent segment is accurate, just coming from different viewpoints, and practitioners and researchers can gain practical and valuable insights from each of the four perspectives represented by the results described within this study (Tables 3 and 4). While identical findings for multiple segments of key informants certainly provide strong consistent support for specific causal relationships within the study, unique results within each segment may provide practitioners with additional useful information for the improvement of market orientation toward students. Importantly also for future research considerations, significant differences in information by segment may remain hidden (especially for groups of the population that are underrepresented in the overall sample) and not easily discernible if researchers focus solely on the overall sample, investigating and reporting results only in the aggregate.

The observations and limitations noted above also present opportunities for further research; the study could be repeated outside the United States or within non-AACSB business schools. It could also be conducted at other levels of the organization, within other disciplines, and within other types of organizations. Additionally, future studies could allow for and examine

the possible effect on informant judgement of highest academic degree, major field of study, years of experience, or length of service at the university.

Finally, sudden environmental shifts such as exhibited by the current COVID-19 pandemic may emphasize the need for higher levels of market orientation. Logically, universities focused intently on the needs of their students and other stakeholder-customers would likely be more likely to make the correct decisions when faced with uncertain situations. Future research could extend the current research to examine antecedents and consequences of market orientation within universities that are coping with emergencies and other disasters such as pandemics.

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