

ENTREPRENEURSHIP AT COMMUNITY COLLEGES: LINKING ORIENTATION TO PRACTICE

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The current study uses a sample of community colleges to explore the specific organizational practices that mediate the link between entrepreneurial orientation and performance. The study focuses on a set of practices known as strategic enrollment management and finds that a college's entrepreneurial orientation predicts its enrollment management orientation and the effectiveness of specific enrollment management practices for recruitment and retention. However, none of the constructs were associated with higher admission, graduation, or retention rates. The implications of these findings for theory, practice, and future research are then discussed.

Introduction

The notion that an organization with an entrepreneurial culture will outperform less entrepreneurially minded organizations is a beguiling proposition for entrepreneurship scholars. If true, it legitimizes the teaching of entrepreneurial thinking in the business curriculum (and beyond) and provides a potential remedy for underperforming organizations.

Over the past 30 years, many studies (Davis, Marino, Aaron, & Tolbert, 2011; Kreiser, 2011; Miles, Arnold, & Thompson, 1993; Pearce, Fritz, & Davis, 2010; Vora, Jay, & Polley, 2012; Yongbin, Yuan, Soo Hoon, & Long Bo, 2011) have been conducted on the relationship between entrepreneurial orientation (EO), a measure of a firm's entrepreneurial spirit, and performance.

Almost uniformly, these studies have found a moderate positive relationship between EO and performance. In fact, a recent meta-analysis has confirmed that the relationship holds in a wide range of contexts, including different countries, different industries, and different environments (Rauch, Wiklund, Lumpkin, & Frese, 2009). Interestingly, the EO–performance relationship also seems to hold in nonprofit contexts and with nonfinancial performance indicators (Morris, Webb, & Franklin, 2011; Pearce et al., 2010).

However, more remains to be done. For instance, we need to learn more about when EO does *not* influence performance, that is, to find variables or contexts that *moderate* the relationship between EO and performance. A second task is to understand *how*

higher EO scores influence performance; that is, what are the causal mechanisms that *mediate* the relationship between EO and performance. While delineating context was part of the earliest work on EO (Covin & Slevin, 1988; Miller, 1983), the second task, exploring mediators between EO and performance, has received much less attention in the literature (Wales, Gupta, & Mousa, 2011).

The current study focuses on the relationship between entrepreneurial orientation and specific admission, retention, and completion practices at community colleges in the United States. Community colleges were selected for the study because many of them have volunteered to participate in a voluntary framework of accountability (VFA) that enables researchers to access a wide range of financial and nonfinancial performance data (American Association of Community Colleges [AACC], 2012b). Much has also been written in the sector about ways to improve accountability metrics. In this article, we focus specifically on the concept of strategic enrollment management and related practices (revenue, enrollment, retention, and graduation) in a community college setting (Bontrager & Pollock, 2009). In the following section, we present a more detailed review of the literature on entrepreneurial orientation, mediation studies, the community college context, and strategic enrollment management.

Literature Review

ENTREPRENEURIAL ORIENTATION AND PERFORMANCE

Entrepreneurial orientation (EO) refers to a strategic organizational posture that captures the specific processes, practices, and activities that enable firms to create value by engaging in entrepreneurial endeavors. EO is "... a strategic posture reflecting the decisions and processes of the firm, but not explicitly limited to those that lead to new entry, but rather representative of an overall gestalt within the firm ..." (George & Marino, 2011, p. 992).

Entrepreneurial orientation has been studied widely in for-profit and nonprofit organizations, and researchers have established a moderately strong relationship between entrepreneurial orientation and organizational performance. For instance, a meta-analysis by Rauch et al. (2009) on 53 studies of the

EO–performance relationship found a corrected correlation of 0.242 between the two measures, which they described as moderately high. The relationship continued to hold with different versions of the instrument, whether performance was objectively or subjectively measured, and whether financial or nonfinancial data were considered (although nonfinancial data showed a lower correlation).

The EO–performance relationship has also been observed in the nonprofit context (Morris, Coombes, Schindehutte, & Allen, 2007; Morris et al., 2011). For example, Pearce et al. (2010) found support for the EO–performance relationship in a study of churches where performance indicators were measured as an increase in church membership and a change in donations from the congregation. In addition, Phelan, Johnson, and Semrau (2013) found support for the EO–performance relationship where performance metrics included both financial and nonfinancial indicators in an education context.

One gap in the literature is the relative paucity of studies on the causal mechanisms that link EO to performance (Edelman, Brush, & Manolova, 2005; Wales et al., 2011). Typically, studies have tended to focus on abstract variables such as organizational learning, knowledge-based resources, innovation, or marketing orientation to explain the process (Baker & Sinkula, 2009; Keh, Nguyen, & Ng, 2007; Li, Huang, & Tsai, 2009; Wang, 2008; Wiklund & Shepherd, 2003). This level of abstraction is understandable given that samples often cross industry boundaries. The downside is that the studies are unable to pinpoint specific practices that are employed by entrepreneurial firms in a given industry, which in turn limits the relevance of the studies to practicing managers. The current study seeks to remedy this gap by focusing on causal mechanisms in a particular industry (community colleges) at an unprecedented level of granularity.

Entrepreneurship at Community Colleges

With the growing decline in public funding (Archibald & Feldman, 2008; D’Amico, Katsinas, & Friedel, 2012), community colleges have begun to behave more entrepreneurially to ensure that access to higher education remains at the forefront of the institutional mission

(AACC, 2012a; Roueche & Jones, 2005). New partnerships, strategic alliances, outsourcing, market-centric programs, organizational restructuring, and leveraging tax-exempt status have come to define the recent entrepreneurial initiatives of the community colleges (Flannigan, Greene, & Jones, 2005). From this perspective, community college leaders have argued that entrepreneurialism supports their institution's public mission (AACC, 2012a; Jaschik, 2012; Roueche & Jones, 2005), but no studies have linked the manifestation of entrepreneurial behavior to community college performance. Furthermore, some maintain that community colleges, when engaging in market-like behavior, erode the cultural values of knowledge as a public good (Kraatz, Ventresca, & Deng, 2010), whereas others demand greater accountability of community college performance (Lattimore, D'Amico, & Hancock, 2012; Neal, 2008; Roach, 2009; Zumeta, 2011).

Community college advocates have embraced nonfinancial performance measures of enrollment, retention, and graduation as accountability metrics using the VFA (AACC, 2012b; Keeling, Wall, Underhile, & Dungy, 2008). Because of the growing external demand for accountability from stakeholders and policymakers, the nonfinancial performance metrics have emerged as national policy issues for community colleges (AACC, 2012b; Roach, 2009). For example, the American Graduation Initiative for community colleges seeks to "... launch new initiatives and reforms that will increase their effectiveness and impact by figuring out what works and what doesn't, modernize facilities, increase graduation rates, and expand and create new online learning opportunities ..." (President Obama in Brandon, 2011) for adding 5 million new graduates to the workforce by 2020. In order to achieve the American Graduation Initiative agenda, O'Banion stated, "The completion agenda [American Graduation Initiative] will not succeed without high quality programs in admission, orientation, assessment, placement, advising, registration, and financial aid—the territory for student services ..." (The SOURCE, 2011, p. 6). Since community college leaders have advocated entrepreneurial behavior to achieve institutional mission (Roueche & Jones, 2005), it is unclear if the institutions the leaders represent exhibit an entrepreneurial orientation (Lumpkin & Dess, 1996; Morris

et al., 2011) that relate to meeting enrollment, retention, and graduation goals. The relationship between entrepreneurial orientation and community college performance remains a gap in research, and it should be studied because community college performance has come to the forefront as a national policy issue.

To date, only one other study has examined entrepreneurial orientation in a community college setting (Schiefen, 2010). The study by Schiefen (2010) related organizational structure to EO using grounded theory but did not consider performance as a dependent variable nor did it use quantitative methods. However, given the preceding discussion, we expect that:

Hypothesis 1: EO will predict performance in the community college context.

Strategic Enrollment Management in Community Colleges

Enrollment management professionals in community colleges leverage organizational resources that improve access to their institutions, improve enrolled students' ability to meet their educational goals, and develop innovative methods to retain students (Bontrager & Moore, 2009; Hossler, 1984; Mellow & Heelan, 2008). Morris et al. (2011) suggested that nonprofits measure organizational performance using financial and nonfinancial indicators. While enrollment management professionals are concerned with generating revenue for sustaining the institution's ability to fund the social mission, nonfinancial performance measures such as enrollment, retention, and graduation rates as measures of community college performance may satisfy key stakeholders (AACC, 2012b; Bontrager & Pollock, 2009; Hossler, 1984; Morris et al., 2011).

Slaughter and Leslie (2001) observed market-centric practice in the student services area among enrollment management professionals. Kraatz et al. (2010) characterized enrollment management as an innovative structure that colleges adopted to consolidate "... administrative functions that have the potential to affect enrollments and tuition revenues" (p. 1524). With the expansion of the student aid program, colleges organized the enrollment management unit to "... sell higher education as product and service to students and parent ..." (Slaughter & Leslie, 2001, p. 157). From this perspective,

enrollment management professionals operated as the sales unit (Kraatz et al., 2010) of the college, and received incentives for meeting the enrollment goal by capitalizing on the federal student aid program. Furthermore, colleges raised tuition prices to benefit from the revenue generated from the student aid program and this practice viewed enrollment management units as profit centric (Slaughter & Leslie, 2001).

However, others (Bontrager & Pollock, 2009; Clemetsen & Rhodes, 2009; Glenn, 2009; Hossler, 1984; Jonas & Popvics, 2000) linked enrollment management to student success and suggested that enrollment management professionals strategically align enrollment, academic, and institutional goals. In the community college context, enrollment management professionals develop and carry out the strategic enrollment management (SEM) plan by leveraging the institutional resources to achieve "... mission-related goals ... [and] maximize student success ..." (Clemetsen & Rhodes, 2009, p. 15). Bontrager and Pollock (2009) defined strategic enrollment management as an institution-wide strategic "... concept and process that enables the fulfillment of institutional mission and students' educational goals ..." (p. 3).

It is clear that a favorable disposition toward SEM is perceived as important to community college success. An enrollment management orientation (EMO) is a set of behaviors and dispositions exhibited by community college leaders for meeting institutional enrollment goals. Community college leaders demonstrate an EMO by leveraging technical, financial, and human resources to improve access to their institutions, improving enrolled students' ability to meet their educational goals, and developing innovative methods to retain students (Bontrager & Moore, 2009; Hossler, 1984; Mellow & Heelan, 2008). Moreover, we expect that leaders with an entrepreneurial orientation will also be keen to embrace EMO. As such:

Hypothesis 2: EO will predict EMO.

Hypothesis 3: EMO will predict performance.

Hypothesis 4: EMO will mediate the relationship between EO and performance.

Like previous studies, EMO is a high-level mediator that provides little guidance on specific practices. However, the literature on SEM has also identified a

large number of specific enrollment management practices (EMPs) that community colleges can undertake to improve performance (Black, 2004; Bontrager, 2004). This allows us to construct a hypothetical causal chain from EO through EMO to EMP and performance:

Hypothesis 5: EMO will predict EMP.

Hypothesis 6: EMP will predict performance.

Hypothesis 7: EMP will mediate the relationship between EMO and performance.

Method

SAMPLE

The target population for the study was all public 2-year degree granting higher education institutions in the United States. The institutions for the study were identified from the Integrated Postsecondary Education Data System (IPEDS) maintained by the National Center for Educational Statistics. A total of 890 institutions were invited to participate in the study.

INSTRUMENTS

Data on EO, EMO, and EMPs were collected through an online survey of community college leaders. The various scales used to collect the data are explained below.

Entrepreneurial Orientation

An instrument was developed to measure EO in community colleges based on the work of Phelan et al. (2013), who provided guidance on how to modify the five variable EO scale for an educational context. The Phelan scale was further modified to make sense for a community college audience. As with prior EO studies (Morris et al., 2007, 2011; Pearce et al., 2010; Phelan et al., 2013), the EO variable was constructed from five subscales: innovativeness, proactiveness, risk taking, competitiveness, and autonomy. Each subscale consisted of three items measured using a 7-point Likert scale. The reliability of the overall scale was high (15 items, $\alpha = .8637$). Further details on the EO scale can be found in the appendix (1a).

Enrollment Management Orientation

The items used to measure EMO were drawn from the SEM literature (Bontrager, 2004; Bontrager

& Pollock, 2009). Respondents were asked to rate the importance and effectiveness of 20 items on a 7-point Likert scale. Sample items included establishing clear enrollment goals, promoting student success, and creating academic programs based on market need. The scale demonstrated high reliability ($\alpha = .8286$). Further details on the specific activities can be found in the appendix (1b).

Enrollment Management Practices

EMPs were drawn from studies by Noel-Levitz (Noel-Levitz, 2013a, 2013b) that identified the most common practices employed by community colleges in the area of admission, recruitment, retention, and outcomes. The practices were divided into two groups: recruitment and admission (RA) activities and retention and completion (RC) activities. Respondents were asked to rate the effectiveness and importance of each activity on a 7-point Likert scale. Examples of RC practices included tutoring services, professional advising, and programs for minorities, while RA practices included items such as campus visits, leveraging social media, and television ads. Both scales exhibited moderately high reliability (RA, 14 items, $\alpha = .7879$; RC, 12 items, $\alpha = .7191$).

Details of the specific questions can be found in the appendix (1c and 1d).

Performance

Data on community college performance was obtained from the National Center for Educational Statistics. Variables matched to respondents included revenue (from all sources), enrollment (full-time equivalent [FTE]), retention rate (full time), and graduation rate (2-year).

Previous EO studies have focused on both absolute performance levels and relative performance levels over time so percentage changes in the level of performance over time (between 2010 and 2012) were also calculated.

Control Variables

A number of control variables were also obtained from the IPEDS database, including size (IPEDS category), setting (rural, suburban, or urban), net tuition, financial aid rate, and student–faculty ratio. The respondent’s

position, years in position, and gender were also collected for control purposes. Environmental munificence was also determined by a set of Likert-scaled questions (see appendix [1e]).

PROCEDURE

The contact details for community college presidents were obtained from each college’s website, and the survey link was e-mailed to the presidents’ accounts with an invitation to participate in the study. Two follow-up e-mails were sent to nonrespondents at one-month intervals. Each set of responses was then matched to IPEDS data to obtain the performance and control data.

RESULTS

A total of 90 of the 890 invited colleges responded to the survey, resulting in just over a 10% response rate, representing colleges in 36 states. However, not all surveys were completed, resulting in 64 to 72 usable surveys for the regression and confirmatory factor analysis. Colleges classified as *small* represented 48% of the sample, while *very small* and *very large* represented only 3% each. The enrollment in the participating institutions ranged from 597 to 27,910 students. The graduation rate reported ranged from 4% to 67%, while the transfer rate ranged from 3% to 61%. Colleges located in *rural* areas accounted for 20% of the respondents, while colleges located in *city* areas accounted for 30% of the respondents. A table of descriptive statistics grouped by dependent, independent, and control variables can be found in Table 1 (all data were drawn from 2012, the most recent year that data is available, unless otherwise stated). Table 1a provides the states of participating community colleges.

A factor analysis of the control variables was conducted after it was revealed there was a high level of multicollinearity among the variables. Two factors were extracted that explained 45% of the variance in the control variables, displayed in Table 2 labeled as “Resources” and “Munificence” given the interpretation of the factor loadings.

A number of regression models were constructed by first regressing the two control factors and the geographic setting (city, town, rural) as a block against each dependent variable, then entering each of the

Table 1. Descriptive Statistics for Dependent, Independent, and Control Variables

Variable	N	Mean	Std Dev	Min	Max
<i>Dependent Variables</i>					
Revenue (Per FTE)	70	12372.1	3310.8	6393.0	24870.0
Enrollment (FTE)	70	3876.3	3138.5	343.0	17004.0
Graduation (%)	70	11.9	9.7	0.0	52.0
Retention (%)	70	56.6	8.4	26.0	80.0
Change in Revenue (%)	70	0.1	0.2	-0.4	0.4
Change in Enrollment (%)	70	0.1	1.0	-2.4	4.1
Change in Graduation (%)	70	0.0	1.0	-1.7	3.9
Change in Retention (%)	70	0.0	0.9	-2.8	3.6
<i>Independent Variables</i>					
Entrepreneurial Orientation (EO)	71	69.5	11.1	36	93
Enrollment Mgt Orientation (EMO)	62	111.7	15.0	70	147
Retention & Completion Practices (RC)	68	66.9	9.7	31	84
Recruitment & Admission Practices (RA)	68	80.1	12.8	44	107
<i>Control Variables</i>					
Student Faculty Ratio	71	19.4	5.5	9	37
Financial Aid Rate (%)	71	79.0	14.4	37	99
Net Tuition	71	6988.1	2272.8	2382	13423
Tenure of President	70	6.5	5.7	1	25
External Munificence	70	40.9	6.4	24	58
Internal Munificence	71	13.4	2.4	8	20

Table 1a. States in Which the Participating Community Colleges Are Located

State	Participants (N)
AL	2
AR	2
AZ	2
CA	7
CO	1
CT	2
DE	1
GA	1
IL	5
KS	2
KY	2
LA	1
MD	1
ME	1
MI	3
MN	2
MO	1
NC	9
ND	1
NE	2
NH	1
NJ	4
NM	2
NY	2
OH	3
OK	1
PA	4
SC	2
TN	2
TX	7
UT	1
VA	4
WA	4
WI	2
WV	1
WY	2
Total	90

independent variables into the model in blocks. A mediation effect would be evidenced by a reduction in the significant effect size of an earlier entered variable (e.g., EO) combined with a significant effect for

a newly entered variable (e.g., EMO). The results of these analyzes are presented in Table 3 (absolute level of each dependent variable) and Table 4 (relative change over time). Unfortunately, there is little evidence of

Table 2. Factor Loadings for Control Variables

Control variable	Factor 1 Resources	Factor 2 Munificence
Student Faculty Ratio	-0.74	0.03
Tenure of President	0.36	-0.09
Financial Aid Rate (%)	0.56	-0.17
Net Tuition	0.72	0.15
External Munificence	-0.09	0.82
Internal Munificence	-0.04	0.83

mediation in any of the models. Only two of the models have significant F-values, enrollment, and graduation, but these results seem to be readily explained by the setting of the college, with city campuses having higher enrollments and lower graduations. As such, none of the hypotheses involving performance were supported.

Interestingly, there was some confounding of the campus setting with the independent variables, with city campuses exhibiting significantly higher EO, EMO, and RC practices than rural campuses (with towns and suburbs in the middle of the range). However, removing setting as a control variable from the models did not change the results in any significant fashion. We also

explored whether weighting enrollment management practices by their importance would alter the results but no significant results were obtained.

Variations on the performance variables were also examined, such as revenue from tuition or gifts rather than total revenue encompassing multiple sources of funds. Similarly, we examined different graduation horizons (2-, 3-, and 4-year rates) and part-time rather than full-time retention. In all cases, EO failed to have a significant effect. The results were similar for EMO and EMP.

However, once consideration of the dependent variables was removed from the analysis, the other variables exhibited a mediational structure that was consistent with our predictions. For instance, a confirmatory factor analysis of the causal path from EO to EMO to RA and RC practices (see Figure 1) was highly consistent with a mediation effect (chi-square of 11.61, root mean square error of approximation [RMSEA] of 0.03, and comparative fit index [CFI] of 0.99), thereby supporting Hypothesis 2: EO will predict EMO, and Hypothesis 5: EMO will predict EMP. The model also outperformed an alternative model that considered a direct effect between EO and EMP.

Table 3. Models for Absolute Dependent Variables (t-values)

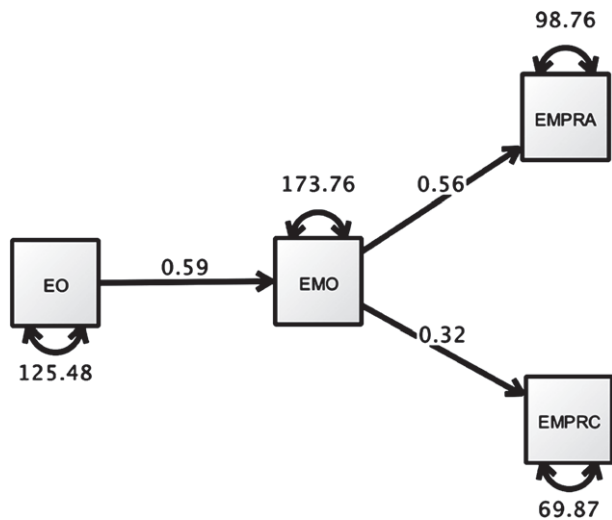
Dependent Variable	Revenue	Enrollment	Retention	Graduation
<i>Block 0 (Control)</i>				
Resources	2.94*	-2.9*	-2.17*	1.53
Munificence	0.28	1.92	1.39	2
City-Town	-1.3	4.21*	-0.21	-3.18*
Rural-Town	1.29	-2.57*	-1.33	0
Suburb-Town	-0.12	1.12	0.87	-1.33
<i>Block 1</i>				
EO	0.81	0.53	0.62	-2.20*
<i>Block 2</i>				
EO	0.99	0.04	1.93	-1.24
EMO	-0.39	1.38	-2.16*	-0.29
<i>Block 3</i>				
EO	0.99	0.00	1.96	-1.28
EMO	-0.62	2.45*	-2.19*	-0.43
RA	0.3	-0.81	0.92	-1.25
RC	0.29	-1.46	0.16	1.00
Adjusted R-squared	0.00	0.42	0.10	0.35
F-Ratio	0.92	5.81*	1.77	4.58*

Note: * $p \leq .05$

Table 4. Models for Relative Dependent Variables (t-values)

Dependent Variable	Revenue	Enrollment	Retention	Graduation
<i>Model 0 (Control)</i>				
Resources	-1.04	-0.6	-1.49	-0.12
Munificence	0.89	0.01	-1.09	-0.29
City-Town	1.5	0.2	0.32	-1.1
Rural-Town	-1.38	-0.64	-0.04	-0.47
Suburb-Town	0.21	0.94	-1.4	1.22
<i>Block 1 EO</i>	0.85	0.67	-1.20	1.15
<i>Block 2 EO</i>	-0.10	0.22	-0.26	0.39
EMO	0.83	1.87	-1.26	1.15
<i>Block 3 EO</i>	-0.08	0.18	-0.20	0.38
EMO	-0.53	1.69	-1.37	0.53
RA	-0.07	-1.42	1.62	-0.14
RC	1.83	0.55	-0.41	0.63
Adjusted R-squared	0.02	0.00	0.00	0.00
F-Ratio	1.12	1.04	0.93	0.70

Figure 1. Confirmatory Factor Analysis



Discussion

If we take the results at face value, then we must conclude that entrepreneurial orientation predicts enrollment management orientation, which in turn predicts specific enrollment management practices, particularly recruitment and admission. However, EO, EMO, and EMP, either singly or together, have much effect on objective performance outcomes, such as revenue growth, enrollment, retention, or graduation rates. This is a surprising and unexpected result,

particularly given the extensive work that links EO to performance in the business world and the emergence of similar findings in the nonprofit sector.

One explanation that fits the facts is that enrollment management could be a fashion or fad in the community college sector that presents a plausible narrative that encourages widespread adoption by enterprising leaders of philosophy and practice but actually has little measurable impact on performance (Abrahamson, 1991, 1996). Abrahamson (1991) points out that while we commonly associate innovative practices with success, it is also possible that selection of best practices acts slowly and haphazardly, allowing suboptimal or irrelevant practices to persist or even flourish. This line of thinking suggests that college might be circumspect about adopting practices that have not passed an objective test.

On the other hand, as grounded in the works of Bontrager and Clemetson (2009), the basis of strategic enrollment management in a community college setting encompasses the enactment of planning and implementing strategies that lead to the intended goal. For example, an enrollment management strategy may entail increasing enrollment, improving graduation, or increasing retention, or any combination of the three as suggested by Roberts (2016). In light of such a focus, the objective performance measures

may skew the relationship between EMO, EMP, and performance. However, weighing enrollment management practice by importance did not yield significant results. This suggests that the enrollment management–performance relationship may be defined in the context of enrollment management goals (Pirius, 2014).

Community colleges are open-enrollment institutions of higher education, which means that enrollment is open to all prospective students (Mellow & Heelan, 2008). It is well documented that external labor market trends have shown to influence community college enrollment. In other words, as scarcity exists in the labor market, individuals are more likely to return to higher education for skills advancement or degree completion (Mullin, 2009; Pennington, McGinty, & Williams, 2002). As more students enroll, more resources may be required to sustain the post-enrollment activities, such as retention, support services, physical space, and faculty to teach additional sections. While a comprehensive SEM plan may consider a holistic approach from recruitment to alumni, a dramatic shift in the external environment is likely to disrupt that plan to accommodate a short-term issue. However, the results showed that EO, EMO, EMP, and performance relationship did not materialize even after controlling for the external environment.

LIMITATIONS

Yet another explanation for the findings is the presence of some common methods bias in the self-reported measures (Podsakoff, MacKenzie Lee, & Podsakoff, 2003). This would explain why the EO, EMO, and EMP constructs were related but exhibited no relationship with performance (which was gathered through a separate secondary database). While common methods bias has been explicitly ruled out in earlier studies of EO in nonprofit settings (e.g., Pearce et al., 2010), it may be an artifact of our longer questionnaire, which may have caused respondents to give systematically skewed responses and a relatively high incompleteness rate (Morrel-Samuels, 2002). However, an examination of item distributions revealed little evidence that responses were more extreme over the course of the survey or that standard deviations had declined.

We are also assuming that the respondent (usually the college president) has specific knowledge about the effectiveness of particular practices. This assumption might be false, but previous studies in the EO literature have relied extensively on founder or president responses and still found support for an EO–performance relationship.

Another consideration may be errors in the measurement of the independent variables. While the survey scales used to measure the independent variables displayed a high level of internal reliability and face validity, construct validity was not explicitly tested, although this is common in many EO studies (Short, Broberg, Coglisier, & Brigham, 2009). The simple act of assigning equal weight to each item in a scale might also be problematic, as it assumes that each item contributes equally to the underlying construct. However, an attempt to construct an alternative measure of the constructs by weighting the scales by the importance of a given item also yielded inconclusive results. Perhaps we are just looking at the wrong set of practices and are missing some of the most important practices that predict performance outcomes.

Other possibilities for error lie in the selection of the dependent variables. First, the dependent variables might be inaccurate or subject to error. Second, we might be looking at the wrong variables of interest to see a change as a result of EMPs. Both of these causes are unlikely but obtaining subjective data on performance from respondents might be warranted. For instance, Phelan et al. (2013) asked respondents to rate their performance on a number of dimensions *relative* to peers in the same district and state in addition to objective school performance data. The subjective data were correlated with the objective data but also had a higher correlation with EO.

However, it is more likely that the results are influenced by the temporal design of the study. The perceptual data for our independent variables were gathered in 2014, but our dependent variables relied on data from 2010 to 2012. In this case, we are assuming that EO, EMO, and EMP change slowly and thus the levels measured in 2014 are a good proxy for the levels in 2010 to 2012. This assumption might be wrong, and thus EO, EMO or EMP might have been at different

levels in earlier years and possibly more strongly related to the performance variables of interest.

FUTURE RESEARCH

The issue of temporal causality in EO research raised above is an important one. To the best of our knowledge, no study has explored how long it takes for a change in EO to be manifested in performance outcomes, not the least because of the difficulty in gathering this data over time. However, given the ubiquity of data in educational settings, it may be possible to track EO and related measures over time and explore this question.

Similarly, more work needs to be done validating different versions of the EO scale. The standard EO questionnaire first developed by Khandwalla (1977) and refined by Miller (1983) and Covin and Slevin (1988) has a strong track record of internal validity and reliability, but more work on external validity is required. Recent work on using content analysis to determine the entrepreneurial orientation of an organization represents an important first step to creating an alternate measure of EO beyond self-reported perceptual measures (Short et al., 2010). Ideally, EO measures derived from the content analysis of company reports and other sources should correlate well with self-report measures, thus providing convergent evidence for the construct's existence. Similar techniques could be used to validate our EMO and EMP scales.

Conclusion

The study showed that entrepreneurial orientation is a predictor of enrollment management practice, mediated by enrollment management orientation. While the specific strategies related to SEM practice may differ from college to college, the effectiveness of the strategies was shown to be rooted in an entrepreneurial disposition. Nonetheless, objective community college performance measures remained elusive in trying to understand the relationship between EO, EMO, EMP, and performance.

Given the limitations in the study outlined above, we are not ready to conclude that EO, EMO, and EMP have limited impact on the performance of community colleges. Of course, the temporal issues will start to go away over time as new performance data for 2014 (and

beyond) become available. Similarly, it may be possible to repoll the respondents for subjective performance data or to increase the response rate. We might also be able to use college reports as an alternate measure of EO.

At the very least, this study can be added to the small number that did *not* find a relationship between EO and performance. We believe these findings are valuable in helping to delineate the boundary conditions for the EO phenomenon. On a positive note, it seems that internal organizational practices are aligned with entrepreneurial dispositions, which builds a useful bridge between attitudes and actions.

References

- American Association of Community Colleges (AACC). (2012a). *Reclaiming the American dream: A report from the 21st century commission of the future of community colleges*. Washington, DC: Author.
- American Association of Community Colleges (AACC). (2012b). *The voluntary framework of accountability: Developing measures of community college effectiveness and outcomes*. Washington, DC: Author.
- Abrahamson, E. (1991). Managerial fads and fashions: The diffusion and rejection of innovations. *Academy of Management Review*, 16(3), 586–612.
- Abrahamson, E. (1996). Management fashion. *Academy of Management Review*, 21(1), 254–285.
- Archibald, R. B., & Feldman, D. H. (2008). Explaining increases in higher education costs. *Journal of Higher Education*, 79(3), 268–295.
- Baker, W. E., & Sinkula, J. M. (2009). The complementary effects of market orientation and entrepreneurial orientation on profitability in small businesses. *Journal of Small Business Management*, 47(4), 443–464.
- Black J. 2004. Defining enrollment management: The structural frame. *College and University*, 79(4), 27–29.
- Bontrager, B. (2004). Enrollment management: An introduction to concepts and structures. *College and University*, 79(3), 11–16.
- Bontrager, B., & Clemetsen, B. (Eds.). (2009). *Applying SEM at the community college*. Washington, DC: American Association of Collegiate Registrars and Admissions Officers.
- Bontrager, B., & Moore, A. (2009). Implementing SEM at the community college. In B. Bontrager & B. Clemetsen (Eds.), *Applying SEM at the community college* (pp. 181–197). Washington, DC: American Association of Collegiate Registrars and Admissions Officers.

- Bontrager, B., & Pollock, K. (2009). Strategic enrollment management at community colleges. In B. Bontrager & B. Clemetsen (Eds.), *Applying SEM at the community college* (pp. 1–10). Washington, DC: American Association of Collegiate Registrars and Admissions Officers.
- Brandon, K. (2011). *Investing in education: The American graduation initiative*. Washington, DC: Office of Social Innovation and Civic Participation.
- Clemetsen, B., & Rhodes, J. (2009). What is a successful community college student? In B. Bontrager & B. Clemetsen (Eds.), *Applying SEM at the community college* (pp. 11–32). Washington, DC: American Association of Collegiate Registrars and Admissions Officers.
- Covin, J. G., & Slevin, D. P. (1988). The influence of organization structure on the utility of an entrepreneurial top management style. *Journal of Management Studies*, 25(3), 217–234.
- Davis, J. A., Marino, L. D., Aaron, J. R., & Tolbert, C. L. (2011). An examination of entrepreneurial orientation, environmental scanning, and market strategies of nonprofit and for-profit nursing home administrators. *Nonprofit and Voluntary Sector Quarterly*, 40(1), 197–211.
- D'Amico, M. M., Katsinas, S. G., & Friedel, J. N. (2012). The new norm: Community colleges to deal with recessionary fallout. *Community College Journal of Research and Practice*, 36(8), 626–631.
- Edelman, L. F., Brush, C. G., & Manolova, T. (2005). Co-alignment in the resource– performance relationship: Strategy as mediator. *Journal of Business Venturing*, 20(3), 359–383.
- Flannigan, S. L., Greene, T. G., & Jones, B. R. (2005). Setting the state for action: Entrepreneurship at work. In J. E. Roueche & B. R. Jones (Eds.), *The entrepreneurial community college* (pp. 1–11). Washington, DC: Community College Press.
- George, B. A., & Marino, L. (2011). The epistemology of entrepreneurial orientation: Conceptual formation, modeling, and operationalization. *Entrepreneurship: Theory & Practice*, 35(5), 989–1024.
- Glenn, R. (2009). Shared enrollment services as a potential SEM strategy. *College and University*, 84(3), 79.
- Hossler, D. R. (1984). *Enrollment management: An integrated approach*. New York, NY: College Board Publications.
- Jaschik, S. (2012). Privatization without angst. Inside HigherEd. Retrieved from <https://www.insidehighered.com/news/2012/04/23/community-college-leaders-told-privatization-wave-future>
- Jonas, P. M., & Popvics, A. (2000). Beyond the enrollment management division: The enrollment management organization. *College and University*, 76(2), 3–8.
- Keeling, R. P., Wall, A. F., Underhile, R., & Dungy, G. J. (2008). *Assessment reconsidered: Institutional effectiveness for student success*. Washington, DC: NASPA.
- Keh, H. T., Nguyen, T. T. M., & Ng, H. P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of Business Venturing*, 22(4), 592–611.
- Khandwalla, P. N. (1977). *The design of organizations*. New York, NY: Harcourt Brace Jovanovich.
- Kraatz, M. S., Ventresca, M. J., & Deng, L. (2010). Precarious values and mundane innovations: Enrollment management in American liberal arts colleges. *Academy of Management Journal*, 53(6), 1521–1545.
- Kreiser, P. M. (2011). Entrepreneurial orientation and organizational learning: The impact of network range and network closure. *Entrepreneurship: Theory & Practice*, 35(5), 1025–1050. <https://doi.org/10.1111/j.1540-6520.2011.00449.x>
- Lattimore, J. B., D'Amico, M. M., & Hancock, D. R. (2012). Strategic responses to accountability demands: A case study of three community colleges. *Community College Journal of Research and Practice*, 36(12), 928–940.
- Li, Y.-H., Huang, J.-W., & Tsai, M.-T. (2009). Entrepreneurial orientation and firm performance: The role of knowledge creation process. *Industrial Marketing Management*, 38(4), 440–449.
- Lumpkin, G. T., Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of Management Review*, 21(1), 135–172.
- Mellow, G. O., Heelan, C. (2008). *Minding the dream: The process and practice of the American community college*. Lanham, MD: Rowman & Littlefield.
- Miles, M., Arnold, D. R., & Thompson, D. L. (1993). The interrelationship between environmental hostility and entrepreneurial orientation. *Journal of Applied Business Research*, 9(4), 12–23.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770–791.
- Morrel-Samuels, P. (2002). Getting the truth into workplace surveys. *Harvard Business Review*, 80(2), 111–118.
- Morris, M. H., Coombes, S., Schindehutte, M., & Allen, J. (2007). Antecedents and outcomes of entrepreneurial and market orientation in a nonprofit context: Theoretical and empirical insights. *Journal of Leadership and Organizational Studies*, 13(4), 12–39.
- Morris, M. H., Webb J. W., & Franklin, R. J. (2011). Understanding the manifestation of entrepreneurial orientation in the nonprofit context. *Entrepreneurship: Theory & Practice*, 35(5), 947–971.

- Mullin, C. M. (2009). *Community college enrollment surge: An analysis of estimated fall 2009 headcount enrollments at community colleges*. AACC Policy Brief 2009-01PBL. Washington, DC: American Association of Community Colleges.
- Neal, A. D. (2008). Seeking higher-ed accountability: Ending federal accreditation. *Change: The Magazine of Higher Learning*, 40(5), 24–29.
- Noel-Levitz. (2013a). *Marketing and student recruitment practices benchmark report for four-year and two-year institutions*. Coralville, IA: Noel-Levitz. Retrieved from <http://www.noellevitz.com/BenchmarkReports>
- Noel-Levitz. (2013b). *Student retention and college completion practices report for four-year and two-year institutions*. Coralville, IA: Noel-Levitz. Retrieved from <http://www.noellevitz.com/BenchmarkReports>
- Pearce, J. A. II, Fritz, D. A., & Davis, P. S. (2010). Entrepreneurial orientation and the performance of religious congregations as predicted by rational choice theory. *Entrepreneurship: Theory & Practice*, 34(1), 219–248.
- Pennington, K., McGinty, D., & Williams, M. R. (2002). Community college enrollment as a function of economic indicators. *Community College Journal of Research & Practice*, 26(5), 431–437.
- Phelan, S. E., Johnson A. T., & Semrau, T. (2013). Entrepreneurial orientation in public schools: The view from New Jersey. *New England Journal of Entrepreneurship*, 16(1), 19–30.
- Pirius, L. K. (2014). A data-driven approach to SEM development at a two-year college. *Strategic Enrollment Management Quarterly*, 1(4), 251–262.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879.
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761–787.
- Roach, R. (2009). A new deal for higher education? *Diverse: Issues in Higher Education*, 26(23), 12–14.
- Roberts, C. (2016). Strategy, engagement and focus essential to enrollment growth. *Community College Journal*, 87(2), 35.
- Roueche, J. E., & Jones, B. R. (2005). *The entrepreneurial community college*. Washington, DC: Community College Press.
- Schiefen, K. M. (2010). Entrepreneurial orientation of community college workforce divisions and the impact of organizational structure: A grounded theory study (Doctoral dissertation). Capella University. Available from ProQuest Dissertations and Theses database. (Publication No. 3409196)
- Short, J. C., Broberg, C. J., Coglisier, C. C., & Brigham, K. H. (2010). Construct validation using computer-aided text analysis (CATA): An illustration using entrepreneurial orientation. *Organizational Research Methods*, 13(2), 320–347.
- Slaughter, S., & Leslie, L. L. (2001). Expanding and elaborating the concept of academic capitalism. *Organization*, 8(2), 154–161.
- The SOURCE. (2011). Eight important questions for eleven community college leaders: An exploration of community college issues, trends & strategies. Williamsville, NY: The Source on Community College on Community College Issues, Trends & Strategies.
- Vora, D., Jay, V., & Polley, D. (2012). Applying entrepreneurial orientation to a medium sized firm. *International Journal of Entrepreneurial Behavior & Research*, 18(3), 352–379.
- Wales, W. J., Gupta, V. K., & Mousa, F.-T. (2011). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal*, 31(4), 357–383. doi:0266242611418261
- Wang, C. L. (2008). Entrepreneurial orientation, learning orientation, and firm performance. *Entrepreneurship Theory and Practice* 32(4), 635–657.
- Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal*, 24(13), 1307–1314.
- Yongbin, Z., Yuan, L., Soo Hoon, L., & Long Bo, C. (2011). Entrepreneurial orientation, organizational learning, and performance: Evidence from China. *Entrepreneurship: Theory & Practice*, 35(2), 293–317. <https://doi.org/10.1111/j.1540-6520.2009.00359.x>
- Zumeta, W. M. (2011). What does it mean to be accountable? Dimensions and implications of higher education's public accountability. *Review of Higher Education*, 35(1), 131–148.

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Appendix

1. Entrepreneurial Orientation Scale

[A] Entrepreneurial Orientation

Instructions: Please select a single number to indicate which of the two statements is most true for your college. Selecting a one (1) indicates strong agreement with the first statement, while a seven (7) indicated a strong agreement with the second statement, and a four (4) indicates both are equally true. The numbers in between represent differing degrees of agreement with one of the two statements.

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context

[1] In general, the leadership in our college favors...

A strong emphasis on tried and true services and academic programs	1	2	3	4- Equally true	5	6	7	A strong emphasis on new services and academic programs
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[2] How many new services, activities, or academic programs has your college offered in the last 3 years?

Very few	1	2	3	4- Equally true	5	6	7	Very many
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[3] At my college...

Changes in services, activities, or academic programs have been mostly of a minor nature	1	2	3	4- Equally true	5	6	7	Changes in services, activities, or academic programs have been quite dramatic
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[4] My college...

Is very seldom the first college to introduce new products, student service, academic program, administrative techniques, operating technologies, etc.	1	2	3	4- Equally true	5	6	7	Is very often the first college to introduce new products, student service, academic program, administrative techniques, operating technologies, etc.
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[5] At my college...

We position ourselves to meet existing demands	1	2	3	4- Equally true	5	6	7	We position ourselves to meet emerging demands
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[6] At my college...

We rarely make changes due to perceived changes occurring in the community	1	2	3	4- Equally true	5	6	7	We continually make changes due to perceived changes occurring in the community
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[7] In general, the leadership of my college has...

A strong tendency to adopt low-risk projects, student services, administrative techniques, operating technologies, or academic programs with normal and certain results	1	2	3	4- Equally true	5	6	7	A strong tendency to adopt low-risk projects, student services, administrative techniques, operating technologies, or academic programs with chances of dramatic results
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[8] In general, the leadership of my college believes that...

Owing to the nature of the environment it is best to explore changes gradually via cautious incremental behavior	1	2	3	4- Equally true	5	6	7	Owing to the nature of the environment bold wide ranging acts are necessary to achieve the college's objectives
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[9] When confronted with the decision-making situations involving uncertainty, our college...

Typically adopts a cautious, wait and see posture in order to minimize the probability of making costly decisions	1	2	3	4- Equally true	5	6	7	Typically adopts a bold aggressive posture in order to maximize the probability of exploiting potential opportunities
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[10] In dealing with other colleges, my college...

Rarely responds to changes and actions that other colleges initiate	1	2	3	4- Equally true	5	6	7	Always responds to change and actions that other colleges initiate
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[11] When dealing with other colleges, my college...

Typically seeks to avoid competitive clashes with other colleges	1	2	3	4- Equally true	5	6	7	Typically adopts a very competitive strategy towards other colleges
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[12] At my college...

Our actions towards other colleges can be termed accommodating	1	2	3	4- Equally true	5	6	7	Our actions towards other colleges can be termed aggressive
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[13] At my college...

Very many changes suggested by faculty, board members, or administrators are implemented	1	2	3	4- Equally true	5	6	7	Very few changes suggested by faculty, board members, or administrators are implemented
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[14] At my college...

Identifying new student services, activities and academic programs is the responsibility of a small number of individuals	1	2	3	4- Equally true	5	6	7	Identifying new student services, activities and academic programs is done by all members including faculty, board, and non-administrative staff
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[15] My college...

Discourages independent activity to develop new student services, activities, or academic programs	1	2	3	4- Equally true	5	6	7	Encourages independent activity to develop new student services, activities, or academic programs
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2. Enrollment Management Orientation

[B] Enrollment Management Orientation

Instructions: For each focal enrollment management activity, please rate the (A) importance of the activity and (B) effectiveness of the activity. If the focal enrollment management activity is not applicable, please select N/A.

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context

Scale (A): 1- Not at all important 7- Highly important Scale (B): 1- Not at all effective 7- Highly effective	(A) Overall, how important is the focal enrollment management activity to your college?								(B) Overall, how effective is my unit with the execution of the focal enrollment management activity?							
	1	2	3	4	5	6	7	N/A	1	2	3	4	5	6	7	N/A
1. Establishing clear enrollment goals								N/A								N/A
2. Promoting student success								N/A								N/A
3. Determining optimum enrollment								N/A								N/A
4. Achieving optimum enrollment								N/A								N/A
5. Maintaining optimum enrollment								N/A								N/A
6. Enabling the delivery of an effective academic program								N/A								N/A
7. Generating tuition								N/A								N/A
8. Enabling financial planning								N/A								N/A
9. Increasing organizational efficiency								N/A								N/A
10. Improving service levels								N/A								N/A
11. Creating a data-rich environment to inform operational decisions								N/A								N/A
12. Creating a data-rich environment to inform institutional strategy								N/A								N/A
13. Integration of support services								N/A								N/A
14. Tuition discounting for revenue management								N/A								N/A
15. Enhancing admissions operations								N/A								N/A
16. Creating a marketing image that will reach all types of students								N/A								N/A
17. Differential tuition based on the academic program of study								N/A								N/A
18. Creating academic programs based on market needs								N/A								N/A
19. Offering courses on days and times based on student demand								N/A								N/A
20. Disseminating data on student performance to relevant departments								N/A								N/A

3. Retention and Completion Practices

[C] Retention and Completion

Instructions: For each focal retention and completion activity, please rate the (A) importance of the activity and (B) effectiveness of the activity. If the focal enrollment management activity is not applicable, please select N/A.

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context

Scale (A): 1- Not at all important 7- Highly important Scale (B): 1- Not at all effective 7- Highly effective	(A) Overall, how important is the focal retention and completion activity to your college?	(B) Overall, how effective is my unit with the execution of the focal retention and completion activity?
1. Tutoring services	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
2. Academic support and progress services	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
3. One-on-one professional advising	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
4. Providing practical work experiences	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
5. Programs designed specifically for students of color	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
6. Programs designed for first-year students	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
7. Programs designed for Veterans	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
8. One-on-one faculty advising	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
9. Helping students gain theoretical and pragmatic knowledge about the psychology underlying success and failure	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
10. Require students to attend study-session	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
11. Offer students priority registration	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
12. Offer workshops to assist students with filling out FAFSA	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A

4. Admission and Recruitment Practices

[D] Admission and Recruitment

Instructions: For each focal admission and recruitment activity, please rate the (A) importance of the activity and (B) effectiveness of the activity. If the focal enrollment management activity is not applicable, please select N/A.

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context

Scale (A): 1- Not at all important 7- Highly important Scale (B): 1- Not at all effective 7- Highly effective	(A) Overall, how important is the focal admission and recruitment activity to your college?	(B) Overall, how effective is my unit with the execution of the focal admission and recruitment activity?
1. Online admissions application	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
2. Academic programs within high schools for students to earn college credits to your institution	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
3. Campus visit days for high school students	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
4. High school visits by admissions representative to the primary market	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
5. Campus visit events designed for high school counselors	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
6. Campus open house	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
7. Admissions decisions "on the spot"	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
8. Off campus meetings or events for high school counselors	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
9. Television ads	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
10. Encourage prospective students to schedule campus visits on the admissions web site	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
11. Recruitment strategies targeting specific demographics	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
12. Leveraging social media	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
13. Academic program specific recruitment	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A
14. Partner with external organizations to increase enrollment	1 2 3 4 5 6 7 N/A	1 2 3 4 5 6 7 N/A

5. Environmental Munificence

[E1] Environmental Munificence

Instructions: Please select a single number to indicate which of the two statements is most true for your college. Selecting a one (1) indicates strong agreement with the first statement, while a seven (7) indicated a strong agreement with the second statement, and a four (4) indicates both are equally true. ~~The numbers in between represent differing degrees of agreement with one of the two statements.~~

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context

To be effective/efficient, my college/subunit is...

1.	Significantly less concerned with the geographic location of the college	1	2	3	4- Equally true	5	6	7	Significantly more concerned with the geographic location of the college
2.	Significantly more concerned with growth opportunities	1	2	3	4- Equally true	5	6	7	Significantly less concerned with growth opportunities
3.	Significantly less concerned with competition from other colleges	1	2	3	4- Equally true	5	6	7	Significantly more concerned with competition from other colleges
4.	Significantly less concerned with population growth in the area of my college	1	2	3	4- Equally true	5	6	7	Significantly more concerned with population growth in the area of my college
5.	Significantly less concerned with federal regulatory matters	1	2	3	4- Equally true	5	6	7	Significantly more concerned with federal regulatory matters

[E2] Environmental Munificence

Instructions: Please select a single number to indicate which of the two statements is most true for your college. Selecting a one (1) indicates strong agreement with the first statement, while a seven (7) indicated a strong agreement with the second statement, and a four (4) indicates both are equally true. ~~The numbers in between represent differing degrees of agreement with one of the two statements.~~

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context.

To be effective/efficient, my college/subunit is...

1.	Significantly less concerned with state regulatory matters	1	2	3	4- Equally true	5	6	7	Significantly more concerned with state regulatory matters
2.	Significantly less concerned with local/county regulatory matters	1	2	3	4- Equally true	5	6	7	Significantly more concerned with local/county regulatory matters
3.	Significantly less concerned with accreditation matters	1	2	3	4- Equally true	5	6	7	Significantly more concerned with accreditation matters
4.	Significantly more concerned with funding	1	2	3	4- Equally true	5	6	7	Significantly less concerned with funding

[F] Internal Environmental

Instructions: Please select a single number to indicate which of the two statements is most true for your college. Selecting a one (1) indicates strong agreement with the first statement, while a seven (7) indicated a strong agreement with the second statement, and a four (4) indicates both are equally true. ~~The numbers in between represent differing degrees of agreement with one of the two statements.~~

College chief executive: Respond in the overall college context. **Subunit executives:** Respond in your own subunit context.

[A] The planning process in college/subunit is...

1. Significantly more centralized	1	2	3	4- Equally true	5	6	7	Significantly more decentralized
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[B] During the planning process, my college/subunit is...

2. Significantly more concerned with the performance of my department/division	1	2	3	4- Equally true	5	6	7	Significantly more concerned with college performance
3. Significantly more concerned with the college's internal needs	1	2	3	4- Equally true	5	6	7	Significantly more concerned with the college's external needs