Dimensions of Charter School Choice

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Abstract

I develop indices capturing business / market as well as nonprofit / mission characteristics of charter school organization that can be used to explain many of their observed operational and political choices. This improves on earlier research using only a binary variable classifying charter schools as market or mission rather than letting them take on aspects of both types. Using data from a survey of charter schools I construct market and mission orientation indices which I then use to re-estimate a series of multivariate models published in earlier research on charter school behavior that only used the binary distinction between schools. These nuanced, non-mutually exclusive indices reveal aspects of school behavior in terms of targeting student populations, recruiting staff, and engaging in political advocacy not found with the original binary distinction. This demonstrates the importance of increasing the sophistication of our empirical measures in the study of charter schools.

Categorization is a logical and often essential step in scientific research, and charter school research is no exception. A line of recent work on charter school organization has sought to distinguish different *types* of schools based on certain attributes, typically operationalized as dummy variables in multivariate analyses, which might systematically explain their behavioral choices and shed new light on important research questions such as how schools target different student populations and conduct their internal and external operations. Though very useful, when researchers sort schools into mutually exclusive and exhaustive categories, important yet perhaps not dominant attributes of individual schools that might still explain some of their more complex choices may be lost. We thus risk wrongfully accepting or rejecting null hypotheses when conducting analyses using dichotomous measures based on such categories.

In this note I expand on a simple typology developed and used in a pair of recent articles analyzing the organizational and political behavior of charter schools. Using a simple for-profit versus nonprofit distinction, this work, of which I was a part, explored a number of observed behavioral choices of school leaders. To push it forward, I argue that rather than divide them into two categories, schools may be ranked simultaneously on both mission *and* market dimensions. I can thus capture the degree to which a school has characteristics of *both* rather than classify it as one or the other. I develop these indices and re-estimate the multivariate models used in the earlier papers to explain the operational and political choices of a sample of schools and compare the results. I find that these new measures uncover results missed by the original binary variable.

Categorizing Charter Schools

Charter school research has gradually become more sophisticated since this controversial school choice movement, and scholarly interest in it, began in the early 1990s. Research today runs the gamut from critiques of whether and how charters improve student education to their impact on public school systems, and even their role in state and local politics. Much of it has treated charters as a single class of entities, usually because scholars' research questions focused on comparing the performance of these public – private hybrids to those of traditional public and private schools rather than looking closely at variation within charter school populations.

Yet just as Weisbrod (1998) argued that service agencies range from for-profit to nonprofit, so too might charter schools choose to pursue their goals in the for-profit or nonprofit worlds. Certainly many of the state laws governing charter schools provide them enough flexibility to tailor their organizational structures to student populations they wish to attract (Wells et al. 1998; Miron and Nelson 2002). Some choose variations of the business model seeking to attract ever larger numbers of students and achieve economies of scale, changing outreach tactics and curriculum to suit their market niches (Hassel 1999; Maranto et al. 1999), even partnering with educational management organizations (EMOs) (Molnar et al. 2006). Yet many small "mom and pop" charters started by frustrated teachers or community members desiring small schools tailored for their community have also emerged (Wholstetter and Griffin 1998) and, in many cases, serve very different student populations than do the larger, more profit-oriented schools (Cobb and Glass 1999; Wong and Shen 2000).

That charter schools with different organizational structures and educational or business philosophies might make different strategic choices has been the focus of several articles by a research team in which I participated. We argued that observed differences in targeted student

populations, pedagogy, outreach efforts, and even political advocacy can be explained to a considerable extent by varying internal norms and organizational arrangements, especially between schools taking on business mindsets where profits are the goal and those who see their role more as nonprofit social service agencies serving marginalized student populations. Using data from a larger survey of schools in DC, Arizona, Pennsylvania, and Michigan, we found that a simple mission – market distinction helps explain many of schools' choices regarding business operations (Brown et al. 2004) and political advocacy (Holyoke et al. 2007).

Dimensions of Charter School Organization

Science is an evolving process where simple measures of a phenomenon's attributes later give way to more sophisticated measures. Political science, for instance, is full of examples of relatively simple (usually binary) categorization of some entity by its dominant characteristics, initially proving useful in gaining analytical leverage over theoretical questions and empirical observations, being replaced by more refined and nuanced indices. Early studies of Congress where distinctions between conservatives and liberals were operationalized as binary variables indicating whether a legislator was Republican or Democrat were later replaced by the carefully measured interval-level ideology scores of Poole and Rosenthal (1997). Similarly, Segal and Cover (1989) created a scale of U.S. Supreme Court justice ideology and Vanhanen (2000) indices of democratic freedom in nations to replace older, cruder measures. Vanhanen also showed that multiple independent indices may be used to describe different attributes of the *same* phenomenon. I propose taking a similar step forward in charter school research by replacing the market–mission distinction with indices of these characteristics that are not mutually exclusive.

The original argument for charter schools was that once they were free of state and local regulation and oversight they would behave like for-profit businesses. They would draw on expertise in the business sector, often by partnering with EMOs, to reduce costs by attracting progressively larger student bodies to achieve economies of scale. Schools exhibiting these characteristics are *market-oriented*. Yet others bear less resemblance to for-profit businesses, such as schools started by nonprofits pursuing philanthropic missions of service to at-risk populations like single mothers or children in the juvenile justice system. Such schools may take on the parent nonprofit's attributes and learn to survive on public sector contracts to provide educational social services. Such schools are *mission-oriented.*

These differences were presented in Brown et al. as mutually exclusive categories, operationalized in our empirical research by a dummy variable where a school was coded as either market- or mission-oriented. I now suggest that to varying degrees schools can exhibit characteristics of *both*, that they are not stamped exclusively one or the other at birth, or may take on more diverse characteristics later in their lives that defy this categorization. In other words, charters may take on some attributes of for-profit businesses but simultaneously exhibit features of social service nonprofits. A school started by a social service nonprofit to educate juvenile offenders or at-risk youth may still recruit experienced business professionals to their boards for their marketing and fundraising savvy, or even put them in positions of operational control to take advantage of their managerial expertise. They may even partner with EMOs or other businesses to handle back-office administrative services. Alternatively, charters run as for-profits seeking to achieve economies of scale might still partner with community activists and teachers to help identify market opportunities or apply for government social service contracts.

Developing the Indices

To explore whether there are empirical advantages to studying charter school behavior with these two general dimensions I re-analyze the statistical models in Brown et al. 2004 and Holyoke et al. 2007. The data came from a survey conducted in 2002 of all charter schools in Arizona, Michigan, Pennsylvania, and the District of Columbia. All charters in those states were sent a survey, with 270 returned for a 35% response rate.[1] In the survey we asked schools to indicate which types of individuals or organizations were involved in their founding, perhaps revealing whose values were imprinted on a school's philosophy and structure. Then we asked a question regarding the school's subsequent partnerships, allowing us to see whether the school subsequently picked partners re-enforcing characteristics established at its creation, or signaling a change of direction, or both. It is worth noting that the questions regarding current partnerships were not used in the original articles to create the binary mission – market variable, but since the choices that I wish to explore are current, these partnerships and what they may say about the school are relevant. The appendix reproduces the questions asked, the answer choices schools had (they could pick as many as was appropriate), and information on how the indices were constructed from their answers. A school could potentially have a score of 10 by adding up codes on the mission column and 6 on the market column.

Where 84% of the charter schools were originally coded as "mission oriented" and 16% as started by an EMO, and therefore "market oriented," I now find that 109 of these schools score at least 1 on my market-orientation index, though only 4 are coded as 4 and none as 6. On the other hand, 205 schools scored on the mission index. More importantly, 64, or 24% scored

[1] We sorted all states with 2002 charter laws into four pools by how ideologically conservative they were on Erickson et al.'s (1993) measure and Hero's (1998) measure of racial diversity.

on both indices. In Figure 1 I display the locations of all 270 schools in two-dimensional space revealing a significant number above the 0 marks on both dimensions. It is worth noting that only a very small number have significant scores on both, taking on significant characteristics of both market and mission-orientations. In other words, many are not clearly market *or* mission *or* both. Finally, these dimensions appear to capture different aspects of behavior, suggesting they are independent measures, as they only correlate at $r = -0.22$.

---- Insert Figure 1 about here ----

Re-Examining Business Operations

The Brown et al. (2004) paper examined whether charter schools founded by EMOs, and therefore classified as market-oriented, differed systematically in terms of student body size and whether important business and pedagogical decisions were made in-house or by contracting with other organizations (also see Bulkley 2004). In the case of student body size, the market-mission dummy was regressed on a dependent variable indicating the number of students in that school, using the school's age (years since it was approved by its chartering authority) and a dummy indicating whether its census tract was classified as "urban" by the U.S. Census Bureau as controls. The market dummy had a coefficient of 277.09 and was statistically significant at $p < 0.01$, indicating that a school coded as market-oriented was likely to have 277 more students than the others. I re-estimate this model, replacing the dummy variable with my two new market and mission indices. The market index produces a coefficient of 51.99 and a robust standard error of 16.68. This is not a major change, given that the linear prediction for a student body for a school coded 5 on the index would be about 260, and the mission index was not statistically significant and neither of the control variables changed significantly.

Where different results appear is in the re-analysis of operational decisions. I perform this analysis a little differently than in the original. The schools were originally divided into two subsets by whether or not at the time they were contracting out services to outside organizations. Brown et al. then analyzed both data sets to see whether operational decisions such as teacher and student recruitment were being made within the school or by the contracted partner. Because I use the choice to partner with other organizations as part of my market and mission indices, this procedure cannot be used. Instead, I keep all of the data pooled together and analyze it to see whether any schools chose to outsource these decisions, keeping the past and current affiliations of the schools in my indices. As noted in Brown et al., it is possible for charter schools to outsource these operations even if they are not currently affiliated with other organizations, so nothing should be lost by using this different strategy and larger *N*. But in order to make the comparison meaningful, I first re-estimate the models using the original market – mission dummy on all 245 charter schools for which there was data. Fortunately there is no significant change in the results with all schools pooled together from the published results.

---- Insert Table 1 about here ----

In the Brown et al. paper statistical models of seven decisions were estimated using logistic regression with standard errors weighted by state charter school populations.[2] To keep the exposition simple, I only present the four replicated results here (teacher recruitment, student recruit, administrative control, and facilities control) where the market and mission indices produced results significantly different from the original. The results for all of the variables in the new models for these four decisions, along with the original market-mission dummy, are in

[2] Just as in the original paper, the weighting was done by dividing the number of returned surveys from a state by the total number of charter schools in that state that year.

Table 1 and the changes are striking.[3] Where the original paper found the dummy variable to be statistically insignificant when it came to a school's choice to outsource teacher and student recruitment, suggesting that whether a school had a market-driven imprint did not matter, I found in the case of teacher recruitment that it was actually mission-oriented schools, those with local connections or affiliated with social service nonprofits, that were more likely to outsource. On a technical level this is a good example of the advantages of using more nuanced measures for I found something missed by the binary measure. On a substantive level, it suggests that while business-like charters are not more or less likely to make decisions regarding faculty in-house, more philanthropic schools are. It may be that they left such decisions to the parent nonprofits starting the school, suggesting that these larger philanthropic organizations were still making most of the decisions. It may also have been that human recourse decisions were being handed over to other organizations with greater experience and connections.

In another interesting case, when it comes to recruiting students the dummy variable indicates no difference between EMO-affiliated charter schools and all others, but I find that *both* market and mission-oriented schools are more inclined to look to partner organizations to at least help with this decision. Likely this nuance was masked by the either / or nature of the original dummy. Substantively it suggests that while market-oriented charter schools were working with EMOs and other business groups to expand their student populations, perhaps attempting to achieve economies of scale or attract cheaper to educate high performing students who can perhaps boost the school's reputation for educational excellence, mission-oriented

[3] In the original Brown et al. paper the maximum likelihood (ML) estimates were presented as odds ratios. In Table 1 I present all results as ML estimated coefficients so that direction can be assessed, important since re-estimating the models could result in a chance in the effect direction.

charters were perhaps working with parent nonprofits and parents to tap special niche-populations in-line with their philanthropic missions.

In the other two cases, control of general administration and the operation of school facilities, the changes were not as dramatic. In both, the original dummy was positive and significant and so is the market-orientation index, but so too now is the mission index. Mission-oriented charter schools, I find, were also likely to outsource these time and resource consuming tasks to affiliates or parent organizations that were perhaps more experienced with such matters and may have the resources to better deal with them. Alternatively, and in both market and mission cases, parent organizations such as EMOs and nonprofits may also wish to keep tight reigns over the schools by controlling these crucial operations. It appears that while real differences may exist between for-profits and nonprofits in overarching motivations and goals, they do *not* show up in many aspects of their relationships to charter schools. The two types may not be so different after all and this may have important implications for other aspects of the operational behavior of for-profits and nonprofits that have not been explored.

Re-Examining Political Advocacy Behavior

These market and mission dimensions might also improve our understanding of the political decisions made by charter schools. As creations of state policy makers as much as frustrated school teachers, social service nonprofits, and ambitious EMOs, charter leaders may act to shape the legal and regulatory environments under which they operate rather than simply take them as givens, just as nonprofits and for-profits often do (Peltzman 1976; Berry and Arons 2003). In Holyoke et al. (2007) we explored the basic choice to engage in advocacy as well as a number of aspects of that advocacy, such as how extensively to lobby, whether to lobby local or

state lawmaking venues, and whether to directly contact officials instead of using indirect methods such as letters, postcards and e-mail. Here we again used a dummy indicating the school's type, though in this case we coded it 1 if it was founded by a social service nonprofit.

I again re-estimate these models substituting the new market and mission indices for the dummy variable. In Table 2 I present the estimates where the substitution produced particularly interesting results along with the original results for the mission dummy. Because a large number of independent variables were included in the published paper, here I only present the estimates of the original dummy and the two new variables as well as information on the overall performance of the models.[4] In the original basic model regarding general contact between schools and policy makers the two new indices make no improvement. The mission dummy was positive and statistically significant and the mission index is also positive and significant while the market index is not.

---- Insert Table 2 about here ----

It is a different story, however, in the other four, more nuanced models. The mission dummy in the number of venues lobbied model is positive and significant, indicating that social-service based charter schools are more likely to contact lawmakers, but both the mission and the business orientation indices are significant and, more interestingly, positive. In other words, where the dummy gives the impression that social service oriented charter are more likely than their market-oriented counterparts to lobby, now I find that charters exhibiting characteristics

[4] Though very few substantive changes occurred as a result of the re-estimation, the results of the full models are available from the author on request. It is also important to note that the *N*s are larger here because we originally estimated models of lobbying behavior at the state level with the same data on the local level, effectively doubling the size of the data set.

along both dimensions are likely to lobby. This makes sense when remembering that the dimensions are not mutually exclusive, so it is schools taking on neither of these characteristics that are unlikely to enter the political arena. And the opposite appears true of the state government contact model. Here the dummy is positive and significant, but neither index is. This suggests that when lumped together by a simple binary distinction, those with social service backgrounds appear more likely to lobby state policy makers. The lack of a similar indication in the mission index makes it more likely that it is not the nonprofit background that is the reason per se, but something else all of those cases coded 1 in the original dummy share.

In the high effort, or resource intensive, tactics model, which is really personal contact between schools and lawmakers, the dummy was positive and significant, but it is the market index that is now significant but negative. It may not be the nonprofit background that is so much responsible for asking for, and obtaining, personal meetings with lawmakers, a special and rare quality of access indeed (see Wright 1996), but a sign that it is really the business groups that do not wish to do this. This may be because their market philosophy orients them more to the private sector than the public, or because they lack background of working with government and political contacts that many nonprofits can provide to their charter school subsidiary.

Finally, in the local government contact model the dummy was not statistically significant, but the mission index was, another case of the binary nature of the original variable perhaps missing important distinctions. Again, nonprofits may be able to pass on their contacts with local officials, whom many have probably enjoyed long contact with and may even be in their re-election coalitions. Market-oriented charter schools either do not have these opportunities or do not wish to pursue their business in these public venues.

Conclusion

This is not a criticism of the earlier research on how variations in charter school organization and philosophy shape their operational and political decisions. Rather it is another step forward along what I hope is a very promising line of research. Given that this analytical distinction between charter schools is starting to find its way into other important research projects (most notably Lubienski and Gulosino 2007), now is the right time to assess its utility and how the measures can be improved so that future work will incorporate the best theoretical and empirical tools available. Such refinement is, of course, a normal and essential part of the process of all scientific research.

The binary distinction between traditional business oriented charter schools and those that have emerged to fulfill more clearly social service missions gives way to gradations of these two characteristics, indices on which charter schools can be simultaneously rated. Whether a school starts off with market and mission attributes, or whether one or the other or both are acquired later in its school's existence, both explain some, though not all, of the strategic choices their leaders make in pursuit of profit, philanthropic, and pedagogical goals. It remains for future research to see what other nuances of charter school organization can be teased out and used to explain this and other school choices.

Appendix: Market and Mission Index Codes

Market Code	Response	Mission Code
QUESTION: "Thinking about the individuals and organizations that played central roles in starting your charter school, please indicate which of the following best apply:"		
0	Converted from a public school	1
0	Converted from a private school	1
0	Existing social service organization	1
0	Former public school teachers	1
1	Education management organization*	0
1	Local business community	0
0	Started by a nonprofit**	1
0	Group of parents	1
0	Started by a religious organization**	1
1	EMO listed as "other"**	0
QUESTION: "Has your school collaborated with or received any direct financial or administrative support from any of the following outside organizations?"		
1	Educational management organization	0
1	Union	0
0	Nonprofit social service organization	1
0	Foundation or nonprofit funder	1
0	Church or religious organization	1
1	EMO listed "other"**	0

* This was the response originally used to code the market - mission dummy variable 1.
** These are organizations written into an "other" line that we subsequently labeled as EMOs, nonprofits, or religious organizations.

Figure 1: Charter Schools by Market and Mission Indices

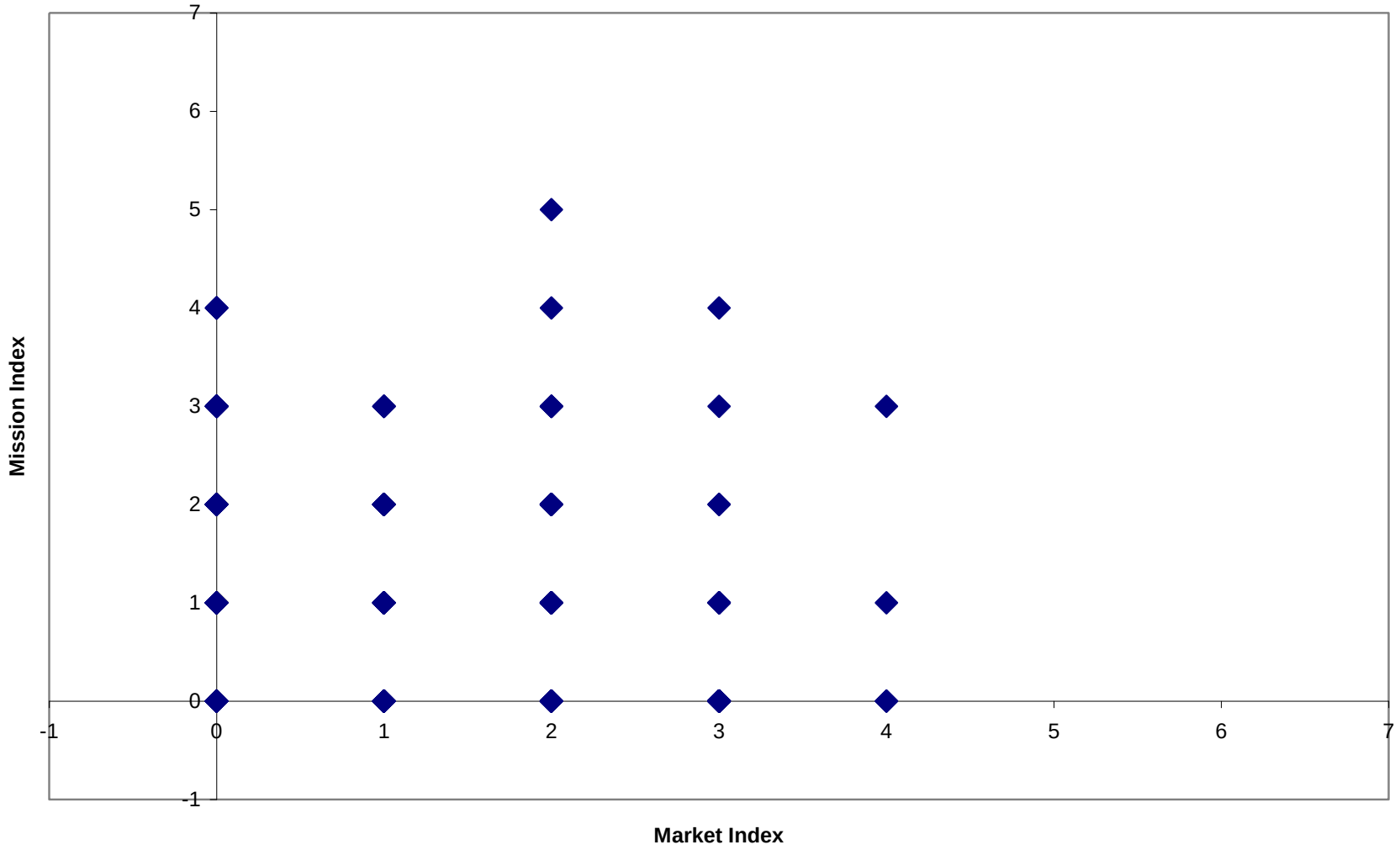

Table 1
Re-Estimation of Business Operations Choice Models
Maximum Likelihood Coefficients (Weighted Robust Standard Errors)

Explanatory Variable	Teacher Recruitment	Student Recruitment	Administrative Control	Facilities Control
Market vs. Mission Dummy	0.21 (0.65)	0.56 (0.51)	1.48*** (0.50)	1.61*** (0.44)
Business Orientation Index	0.28 (0.23)	0.50*** (0.17)	0.72*** (0.17)	0.75*** (0.16)
Mission Orientation Index	0.43* (0.20)	0.50* (0.21)	0.49* (0.22)	0.48* (0.20)
Age of the Charter School (new models)	–0.28 (0.15)	–0.12 (0.13)	–0.08 (0.13)	–0.02 (0.11)
Charter School is Located in an Urban Area (new models)	–0.21 (0.57)	–0.44 (0.45)	–0.26 (0.46)	–0.24 (0.38)
Wald χ^2 (new models)	11.70*	15.72***	21.58***	22.04***
Pseudo-R^2 (new models)	0.06	0.07	0.11	0.11
N	245	245	245	245

** $p < 0.05$*
*** $p < 0.01$*
**** $p < 0.005$*

Table 2
Re-Estimation of Political Contact Models
Maximum Likelihood Estimates (Robust Standard Errors)

Explanatory Variable	**Basic Contact Model (ordered probit)**	**Number of Venues Lobbied (poisson)**	**High Effort Tactics Used (probit)**	**Contacted State Government**	**Contacted Local Government**
Market vs. Mission Dummy	0.38** (0.15)	0.31** (0.15)	0.37** (0.18)	0.45** (0.20)	0.27 (0.24)
Business Orientation Index	0.01 (0.06)	0.13*** (0.06)	–0.19** (0.08)	–0.07 (0.08)	0.12 (0.10)
Market Orientation Index	0.13* (0.07)	0.14** (0.06)	0.04 (0.08)	–0.04 (0.09)	0.37*** (0.13)
Wald χ^2 (new models)	62.38***	46.78***	23.53***	49.64***	24.54***
Pseudo-R^2 (new models)	0.06	0.06	0.06	0.09	0.06
N	285	305	305	172	113

** $p < 0.10$*
*** $p < 0.05$*
**** $p < 0.01$*

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