

Predicting school closures and mergers among the ATS membership

BY DEBORAH H. C. GIN

Is it possible to predict school closures or mergers? In the research world, predictive modeling is a set of tools used to identify future outcomes from current conditions based on past patterns. It isn't 100%, but it provides direction beyond random chance or hunches. Many industries use prediction—medicine (treatments most likely to aid in recovery) and sports (factors most likely to end in a win)—but in theological education, indicators of success may not be as clear. We are always mindful that every school is unique, making it difficult to predict for the entire industry, but there are enough patterns in the last 15 years of data to yield statistically significant results that may provide some direction for schools as they consider their futures in the midst of economically challenging times.

For this unusual time in our collective history, we decided to look at significant organizational change as a measure of stress or stability, as this kind of change takes into account a variety of factors and is concrete. "Significant organizational change," refers to school mergers (between various theological schools or becoming affiliated with a larger university or church), closures, and withdrawals from ATS membership.

One way to predict possible future outcomes from these current uncertain times is to look back at the Great



Recession of 2008—the last major time of uncertainty for ATS schools. A total of 45 schools have merged, closed, or withdrawn since 2009 and provide us with valuable data before and after the recession. We asked, “What factors predict significant organizational change, and how will past patterns help us for the current global crisis?” For this article, we looked at various factors over the short-term (includes data from five years before and after 2008) and long-term (includes ten years of data post-Recession).

Predictive factors for the short-term

For the short-term, significant organizational change (i.e., merger, closure, or withdrawal) is predicted by the following (in order of decreasing strength):¹

1. Upward change in expenditures per FTE (full-time equivalent student) between 2008–2012
2. Downward change in MDiv headcount between 2008–2012

¹ The two predictions used in this article included data from 303 schools (45 of which have merged, closed, or withdrawn since 2009). Email the author for details on the models: R2, betas, full list of variables entered, correlation matrix, etc.

3. Downward change in expenditures between 2008–2012
4. Low average primary reserve ratio between 2008–2012
5. Being located in the western region of the continent
6. Not having added a new degree program between 2009–2018
7. High average expenditures per FTE between 2003–2007
8. Low average % of racial/ethnic students by headcount between 2003–2007

While there isn't a school with all eight factors, as a set, the factors are found among a group of schools. The list, then, can be used as a starting point for discussions about the current crisis.

Prevalence of financial markers—predictors #1, 3, 4, and 7

For schools early after the 2008 recession, financial factors appear to be most salient. Financial factors that matter are changes in the then-recent expenditures per full-time equivalent student (FTE), expenditures overall, and primary reserve ratio, as well as previous years' average expenditures per FTE. Interestingly, it is a particular combination that predicts organizational change, especially in the then-recent financial picture: up in expenditures per FTE but down in overall expenditures. While this may seem contradictory, such a combination is possible, as in the situation where a school is cutting spending yet losing students at the same time, at a faster rate than it is able to cut costs. (See Chris Meinzer's [article in this issue for additional analysis on finances post-crises.](#))

MDiv enrollment—predictor #2

Surprisingly, the only enrollment factor that emerged is the change in MDiv headcount. With the last decade's rise in MA-professional enrollments, we expected changes in this degree to surface as salient, but the increases may not follow patterns that can be identified by the analysis. Decreasing MDiv enrollments, however, are related to organizational change. This may be the case

because, as a degree with large enrollments (40% of all ATS students), it acts as a solid buffer or leaky bucket, depending whether enrollments are growing or declining. The factor may alternatively be acting as a proxy for some other factor or larger construct, such as a school's ecclesial family or financial health.

West region—predictor #5

Schools were divided into six geographical regions, and five were considered for this prediction (one having too few schools for statistical analysis). Curiously, being located in the West emerged as salient. A predictive model also works in reverse—*not* being located in the West predicts organizational *stability* (rather than being located in the South or Northeast, for example). Ultimately, it is unclear why this factor is significant. Perhaps it has to do with the western region having more of the newer schools—with attendant enrollment and financial stresses—or perhaps sites in the West are more costly to maintain.

New degree program—predictor #6

Since the 2008 economic recession, 134 schools have added at least one new degree program (ranging from one to nine new degrees per school). Though the addition of new degrees is also a financial decision, this factor is unique in the list—it's mainly educationally focused. Of course, schools hope to draw greater enrollments and revenue with the addition of degrees, but schools are also addressing curricular or student learning or competency gaps when they add new programs. So, among the predictors, this may be the lone factor that represents the innovative character of the school or its willingness to risk in a time of uncertainty. In this case, not having added a new degree program predicts significant organizational change.

Racial/ethnic students²—predictors #7 and 8

Only two factors from before the 2008 recession emerged as significant in this model, though they were

² "Racial/Ethnic" is used by ATS to refer to those minoritized by race or ethnicity. It was first coined by the Association's Committee on Race and Ethnicity (CORE) 20 years ago to keep the work anchored to race. CORE members (who are currently and historically predominantly racial/ethnic) recently reaffirmed the use of the term, knowing it departs from current terminology (e.g., "of color," "non-dominant") used in other industries.

the weakest predictors: average percentage of racial/ethnic students and average expenditures per FTE just prior to the economic crisis. It's not surprising that the percentage of racial/ethnic students emerged as salient, given the growth in these students over the last three decades (from 20% in 1988 to nearly 40% this year). Significant organizational change was predicted by a low percentages of racial/ethnic students.

Taken together, this set of factors depicts an understandably cautious—and somewhat conservative—environment, focused mainly on financial indicators and changes that were recent at the time. The two factors from before the crisis that seemed to matter are average expenditures per FTE and average percentage of racial/ethnic students.

Predictive factors for the long-term

The picture is somewhat different when adding data from the latter half of the decade to data from the first half (and removing data from before the recession). Significant organizational change (i.e., merger, closure, or withdrawal) is predicted, in this case, by the following (in order of decreasing strength, with new factors bolded):

1. **Downward change in new enrollments between 2013–2017**
2. Being located in the western region of the continent
3. Low average % of racial/ethnic students by headcount between 2013–2017
4. **Upward change in gross tuition between 2013–2017**
5. Low average primary reserve ratio between 2008–2012
6. Not having added a new degree program between 2009–2018
7. Downward change in MDiv headcount between 2008–2012
8. **Being located in an urban location**
9. **Downward change in applications between 2008–2012**

10. **Downward change in full-time faculty between 2013–2017**

11. **Downward change in expenditures per FTE between 2013–2017**

12. **High average % of women students by headcount between 2008–2012**

While some financial markers remain, several new factors—related to the role of admissions, the school's urbanicity, and faculty—emerged.

New enrollments and applications—predictors #1 and 9

Though not surprising, it is important to underscore that these two factors emerged in the second half of the decade (2013–2017). One goal of this article was to refrain from prescribing strategies, as not all findings will fit every school. That said, new enrollments and applications emerged both here and in preliminary results of predicting enrollment changes and likely align with an intuitive understanding of increasing a school's enrollments. In addition, the main predictor of increased new enrollments is increased applications. So, among the many possible strategies, perhaps focusing on increasing your applications as well as new enrollments is somewhere to start. Keep in mind that though the factors are strongly related, they are different: applications show student interest, but new enrollments show commitment.

Racial/ethnic students—predictor #3

This factor moved far up the list in relative strength as a predictor, which means it accounts for more of the difference between stable schools and schools that under- or are undergoing significant organizational change. Also note that, in this model, it was the percentage of racial/ethnic students in the recent season that is salient, suggesting the factor has significance over time.

Different financial picture—predictors #4, 5, 10, and 11

The new factors with direct financial implications that emerged in this model are recent gross tuition, expenditures per FTE, and size of faculty, as well as prior years'

primary reserve ratio, which we also saw in the earlier prediction. Note that primary reserve ratio appears to be an important financial marker, both in the current season and in the season to come. Unlike in the first prediction, where we used data immediately after the recession, the factors in this second prediction seem to reflect a situation where the school is cutting costs—including contracting the size of faculty—and raising tuition perhaps to cover the difference. Strategies may have been more conservative in the first half of the decade, but in the second half, they were more drastic

Urbanicity—predictor #8

This was an item from the mapping survey sent to deans to capture the various educational practices and models in which schools had engaged in recent years. Respondents indicated whether the school's main campus was located in a rural, suburban, or urban context. That it emerged as significant here may indicate the commuter nature and larger part-time share of students in urban schools. So, while being located in a more densely populated area brings higher headcounts, urban schools also likely have lower FTEs and revenue, as well as higher costs associated with city locales.

Women students—predictor #12

Surprisingly, the average percentage of women students emerged as salient, though why is not entirely clear. Changes in the ratio of women students has changed only slightly over three decades, slicing by various types of schools. The largest shifts have been declines of women students in Roman Catholic/Orthodox schools (36% at a peak in the early 2000s to 28% this year). Perhaps the significance can be better understood by looking at the reverse—schools with low percentages of women students are also the stable schools, in which case, the factor may be a proxy for school's ecclesial family, for example.

This set of factors that predict significant organizational change long-term reflects an environment that is less

directly related to the schools' finances, and features aspects of schools' health and stress that are related—but one step removed—from finances: new enrollments, applications, faculty size, and tuition (i.e., *students'* finances). There is also a greater sense of urgency in this second half, but the primary reserve ratio persists as salient across time.

Cautions to consider

It is important to understand that, in predictive modeling, researchers control the inputs; something won't show up as significant if it wasn't included in the first place. For the two predictions above, among the many possible pieces of data annually submitted, we considered aspects of the school that might be related to organizational stability or stress: finances (including, for example, short- and long-term investments, scholarships, contributions), enrollments overall and for various degree types, aspects of accrediting history, applications and completions, educational activity, faculty, and various aspects of the institution (e.g., ecclesial family, structure or relatedness, whether they are affiliated denominationally).

Ecclesial family, relatedness, predominant race of the institution did not predict nor did enrollments in certain degree or distance education programs, years to completion, nor engagement in particular educational models. We included changes in church membership corresponding to the school's primary denominational family, as well as an indicator of denominational "breadth" of the students—neither of which was salient. It may be, however, that some of the factors that *did* predict, are standing in for these factors. Also, preliminary results suggest that the factors that did not predict significant organizational change *do* predict enrollment shifts.

Also, we must keep in mind that these models account for only a certain percentage of the variance between organizational stability and change. There are other factors—not included in these models—that may be

significant predictors of organizational stability or change, such as leadership, unique conditions of the school, factors that matter for a particular context but not for another, and other intangibles.

Concluding comments

What do you do with this information? If I were a school leader, I might begin by finding out how my school fares on each of these factors. As an example, if expenditures per FTE over the last few years was going up and the primary reserve ratio was low over the same period, it might indicate potential future financial challenges for the school. I would consider having an honest discussion with my staff about the reasons for the trends, and then determining how we could reverse their directions. I would share with them that these two factors—among others—are potential indicators of theological schools needing to make significant organizational change if not appropriately addressed.

Some questions to think through as you consider gathering your leaders to discuss how your school will weather the current health and economic crisis:

- Which factors emerged and when? Perhaps a factor is not important now, but may be in half a decade or as a precursor to the next crisis. Which contemporaneous factors should your school focus on now—before significant stress hits—so you can make decisions from a place of strength?
- Which factors emerged, by type? While you may not be able to do anything about factors related to

the school (e.g., location), enrollment factors may be something your school can attend to in some way. Or, for financial factors, consider how they relate to educational factors.

In predictive modeling, the idea is to identify salient factors: of all possible factors, what are significant? What is related to organizational change, post-2008 recession? Another way to view the data is to reverse all of it: predicting organizational *stability*. Stability is predicted by the same factors, but in the opposite direction (e.g., *high* primary reserve ratio or *low* average expenditures/FTE and *high* percentage of racial/ethnic students).

While not every factor can, or should, be seen as a strategy, approaching the models from a place of stability is absolutely the right thing to do. Organizational stability may not be every school's measure of success, but it is far easier to make decisions when your organization is stable. Think of these as good targets to maintain so you can make important educational decisions for your mission from a place of strength, rather than because your school's financial situation forces your hand—a way to help you make the decisions you *want* to make, rather than the decisions you *have* to make.

Some of the factors identified are elements the school can control; others are out of the school's control. Figuring out what can be done about the former, while living into and celebrating the latter is the labor—and joy—of attending to challenges in theological education.



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