

“Let’s Play Moneyball!”: Analytics, Accountability and the Future of Research Universities

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Research universities make massive investments in research. Many of these investments are obvious and easily accounted for. These include infrastructure (building, specialized equipment), the complex management of external grants, and other easily measured costs. Arguably the largest relatively undocumented university investment is the “release time” from teaching provided to most tenure line faculty members. The purpose of the release time is to allow the faculty member to conduct research and scholarship. This release time often accounts for 40% of a faculty member’s full-time 9 month appointment. Conceptually it’s typically the difference between teaching 4 courses per semester (a typical load in a regional undergraduate campus that has as its primary mission teaching as opposed to teaching and research) and 2 courses per semester.

Furthermore, this investment is an excellent one in the majority of cases in which faculty use this “research time” to actively engage in important and measurable scholarship. But what about faculty members who are “inactive scholars”? I am referring to full time university faculty members who generate little or no meaningful evidence of scholarship and acceptable creative active scholarship over significant periods of time while still receiving the benefit of this release time.

There are at least two reasons that research universities should be concerned about tenure line faculty members who are inactive scholars. First, there may be an ethical issue if these individuals maintain graduate faculty status that allows them to chair or serve on PhD level doctoral student committees. These faculty

committees are charged with supervising the training of future research scholars. One could argue that an inactive scholar (e.g. someone who has not generated published scholarship in perhaps five years or more) should not automatically qualify for continuing doctoral faculty status simply because they have held this status since they became a faculty member. That is, automatic qualification should be reserved for active scholars. The ethical issue is that we should want our PhD students to be supervised by committees consisting of active scholars. The second reason is the obvious expectation that if you receive release time, you are expected to use it as intended unless given explicit permission to do otherwise. If not, this behavior (or lack of it) is in violation of the implicit and explicit

employment agreement that exists between a full time tenure line faculty member and his employer. It can be hard for administrators to determine whether a given faculty member is using the provided release time for research. Research is often done off campus and in fact many faculty use their home offices or studios as places to engage in their scholarship. Thus, we tend to honor self-report instead of direct monitoring of faculty members. This is as it should be. But it can be abused. Nevertheless, scholarship is virtually any type of work that does generate some kind of product. Most often these are easily measured publications. But even in areas such as the visual and performing arts, there are “products” than can be measured.

In the past the problem of “inactive” scholars at research universities was most evident to their colleagues. It was the subject of rumors, and perhaps had a negative impact on an inactive faculty member’s salary over time because they didn’t receive raises. However, in the world of electronic publication we now live in, the evidence of this problem is more transparent. That is, it can now be identified by outside groups that harvest information on the productivity of faculty among other things, and then sell these analyses back to universities to help them improve, etc. These aggregators can also sell the same data to other groups such as state legislators and university governing boards. There are cases where this has happened and subsequently created problems for universities in a few states. Even highly productive flagship research universities are not immune to this problem.

Two Scenarios

Consider a scenario in which data on the scholarly productivity of all doctoral program faculty on a state-by-state comparative basis is made available for purchase. Suppose individuals in your state legislature get this data. Suppose your state does poorly (the problem of inactive scholars does not respect state lines). Perhaps the data show that more than 10% of doctoral program faculty at your university have not published in the last 5 years or more. Suppose your legislature takes this as evidence that a significant number of your faculty members are “inactive scholars”. How would you respond? What actions would you take? This has apparently already happened in a few states.

Or consider another scenario that is perhaps even more problematic. Suppose that other research universities that you compare yourself to, use this kind of externally captured faculty productivity data to reclassify or remove unproductive scholars from their doctoral faculty and assign them larger teaching loads. Then, as a result of these actions and perhaps others taken over a period of 5 to 10 years, these universities significantly improve the overall scholarly productivity of their doctoral program level faculty. Perhaps they also use tools like Academic Analytics to identify departments and programs that need “new blood”, and perhaps some that need to be merged with others, reorganized, or even eliminated. They also use these tools to recruit new faculty with a high likelihood of success and to help retain truly productive scholars. In other words, they use the data to play “Moneyball” and to improve

themselves with wise, data based personnel decisions in ways like the Oakland A's used productivity data to build a highly competitive major league baseball team on their relatively small budget. Finally, suppose that this strategy, after 5 or 10 years, leads these universities to pass your university by and move up on a wide range of ranking while you sit on the sidelines and maintain business as usual. Can this happen? I suspect it is already happening. So what are you going to do? Are you going to play Moneyball too? Or put your institution at a long term risk because you choose not to play and thus gradually slip behind what had previously been your "peer group".

These two scenarios are plausible in the world we now live in. What can you do to avoid them? Consider these possible steps:

1. Get the data on your university and your competitors and develop an in depth knowledge of it. Make it easy for deans and department chairs to use this data. Perhaps offer a consultation service whereby "analytics counselors" will conduct studies for departments and colleges at their request. Create incentives to get people using this data.
2. Start using the data to make decisions about hiring, retention, reorganization, etc. That is, make it an active planning tool.
3. Work closely with deans, chairs, and faculty to create a broad understanding of the serious downside of ignoring this type of data. Not acting in the face of the changing world is essentially sitting on the sidelines and possibly watching the

relative decline of your university in terms of its effectiveness and competitiveness.

4. Put in place policies aimed at eliminating problems like unproductive tenured scholars. The root of this problem may lie in your tenure and promotion system. Better data can inform that process too. In addition, your policies on post-tenure review and differential allocation of effort can make it relatively straightforward to reassign unproductive scholars to higher service and teaching loads, or other activities.
5. Use analytics data to make budgeting decisions. Make it a meaningful part of the scene.

Cautions

Having a huge amount of data is a separate issue from using data wisely. Einstein among others is famous for observing that much of what we can measure is of little real value just as many things we can't measure are what really matters. Indeed, having a high publication rate and having a high impact and value can be remarkably unrelated. A number of the most influential scholars in history produced only a very small number of publications. Furthermore, lots of papers published in "high impact journals" are never cited in the literature. Nevertheless, the right data, wisely used and qualified can help us identify scholars who are no longer active. Furthermore, it is necessary that we evaluate scholarly productivity within the fields/disciplines where it resides and against the standards of that field. Otherwise you are simply comparing apples and oranges. Publication patterns differ

greatly across various disciplines. Finally, some fields (e.g. the visual and performing arts) present significant challenges in terms of evaluating the impact of creative activities in a valid way. This doesn't mean it can't be done, but it does mean we need to take great care and tread lightly in these areas.

Final Thoughts

Analytics and big data are already having a significant impact on higher education in all sorts of ways. Furthermore, we are still in early stages of this big data revolution. There is no turning back from this and no returning higher education to what some consider its "monastic ways". Indeed, we need to embrace analytics and big data or we will be run over by others that do embrace them. But this is not just about playing defense in an age of rapid change. These new tools present great op-

portunities for improving the performance and impact of higher education in general and research in specific. They are tools that can actually level the playing field for public research universities. That is, it can help lesser endowed institutions become the Oakland A's of research universities. Billy Beane, the manager of the Oakland A's portrayed in Moneyball (the book and the movie) is still using sabermetrics to make the A's remarkably competitive despite having a total annual budget that is less than 1/3 of the New York Yankees payroll. In fact, when I checked the paper this morning, the A's were leading their division.

References

Lewis, Michael. (2003). Moneyball. W.W. Norton & Company