

 CASES FROM THE FIELD

Charting the Course: Using Data Analytics to Assist with Strategic Enrollment Management

by Robert Muhammad and Kristen McManus

Facebook, Twitter, Snapchat, Instagram, WhatsApp and other social media platforms were created to give people immediate outlets to express themselves to their friends, family, and the world with just a few clicks of a button. These platforms have created a culture, particularly with Millennials who seek immediate gratification, constant feedback and affirmation (Pollack 2014). It is well documented that students check how many “likes” or positive responses they obtain on a social media post. “It is very interesting how most of the top reasons are all linked to what we call ‘passive networking’—that means users who come to social media to consume content rather than actively contributing to the stories” (Desreumaux 2015). In some instances, “they literally represent a snapshot of a world that’s consumed with appearing happy and confident and in control. But that’s not what social media should do” (Elmore 2013).

With the advent of such technology, it is no wonder that people no longer tolerate waiting in line (Shafir 2012). Photos of people waiting in lines are used to illustrate powerlessness while highlighting the distinction between choice and need. Yet waiting in any line implies that the line has value and is more important than the time of those in line (Shafir 2012). Organizational psychology, the science behind the study of standing in line, has led to some innovations. “Companies have come up with some novel solutions to shorten lines, including charging customers for skipping or advancing in the line. Examples include priority boarding on airplanes and special concession lines for NFL season-ticket holders” (Swanson 2015).

The Office of Scholarships and Financial Aid at Winston-Salem State University has successfully utilized social media, e-mail, postal mailings, and calling campaigns to engage both internal and external stakeholders for differing reasons. E-mail is used in conjunction with postcards and calling campaigns to engage students throughout the financial aid cycle and academic year. Facebook and Twitter are also used to communicate with students regarding issues related to the FAFSA, verification, special days dedicated to student services, and other student issues. A Facebook account maintained by the office is used to communicate with external stakeholders. Usage of these social media platforms to engage with students and the public at large enables the university to inform the public of its stories (Hope 2016).

If universities want to survive into the century while maintaining relevancy to the business world and the global market, they must utilize innovative methods that engage students from the time of admission through graduation. Unfortunately, today’s universities fail to provide students with thought-provoking experiences. This failure appears to be destroying forward thinking in young people. While this result is unintentional, it is insidious nevertheless for being unplanned, unnoticed, and unseen (Doss 2015).

Those universities that take the necessary steps to reach students where they are and to engage with them prior to their arrival on campus will be more successful in terms of student affairs and academic rigor. Successful engagement equates to economic growth and

positive branding. Students who are ‘invested’ and feel that the university is committed to their success work harder and develop kinship with their university. “The true measure of student success is how well students are prepared to accomplish their current and future academic, personal, and professional goals through the development of knowledge, a sense of responsibility and self-reliance, and a connection to the college and wider community” (Nazarene College 2014).

To maximize student success and retention, institutions must communicate proactively with students throughout all stages of engagement—for example, regarding how to register for the next semester’s classes, apply for internships, pursue study abroad opportunities, pay account balances, reapply for financial aid, and complete the steps necessary for graduation (Fleming 2016). Supplemental activities such as internships are early indicators of success because they demonstrate students’ fortitude, willingness, and, on some levels, critical thinking.

Strategic enrollment management (SEM) creates a highly interactive team that utilizes established principles of planning, implementation, evaluation and revision to ensure the institution’s constant success in fulfilling its educational commitments to its students. The activities described above are all part of managing enrollment in ways that engage, retain, and ultimately graduate students. “Successful enrollment management, as well as successful universities, requires multiple units to work together seamlessly to create a student experience, a student journey, if you will, that will ensure success for the students and enrollment health for the university” (Henderson 2017).

Institutions must ensure that messages are clear and succinct, providing answers that meet the needs of students. Improvement in student success leads to improvement in retention. Students who are actively involved in their academic progress, some form of student activities, and free of concern regarding finances are more likely to thrive at their institution.

Institutions that work to provide positive experiences in these areas are reviewed favorably in trade publications such as *U.S. News and World Report*, *Washington*

Monthly, and *The Wall Street Journal* (Annual College Edition). Boosts in reputation that result from inclusion in such reputable publications can lead to increases in enrollment and, ultimately, higher-quality enrollment.

Importance of Data

According to a Helical IT survey, if a decision is made relying on data rather than pure intuition, the chances of succeeding are 79 percent greater. By implementing a centralized data collection process, an organization can make data-driven decisions (Nektar Data Systems 2015).

Often, the terms “data” and “information” are used interchangeably even though technically, there is a significant difference between them. Essentially, data are raw numbers collected by technology. Collectively, data look like a varied series of numbers; to simply read data would be of little benefit. Information, by contrast, is data that have been processed and interpreted so meaning can be attributed to them. Once an understanding of information has been reached, an office can make informed decisions.

It is imperative that an institution’s enrollment data-collection process be robust. Otherwise, information may be inaccurate, leading to poor decision making. The process by which data are transformed from a seemingly random list of numbers to helpful information used to direct organizational policies and processes may be lengthy. If an aspect or component of this process is weak, the results will be compromised.

Given SEM’s roots in strategic planning and data, it seemed natural for this financial aid director to begin to rely heavily on analytics and predictive modeling. During a few years with no enrollment manager, the financial aid director brought areas of enrollment management to the table to facilitate understanding of how offices can better assist on another and drive the SEM process forward.

Predictive analytics are means of deriving better decisions and actionable insights based on data. Predictive analytics aim to estimate the likelihood of future events by considering trends and identifying associations with related issues as well as risks or opportunities. Predictive analytics may also demonstrate correlations in data

that descriptive models might not reveal (for example, demographics and completion rates) (Daniel 2014).

The financial aid director used predictive analysis by extracting data from various areas of enrollment:

- How many students had applied and were qualified for re-admission?
- How many first-year and transfer students could the university realistically accommodate?
- After the next two semesters, continuing students versus students who were no longer Pell eligible were studied; a listing of students who would max out their loan eligibility was also generated.
- The number of students selected for the federal process of verification was investigated.
- A list of students who would be ineligible for financial aid due to not making satisfactory academic progress (SAP) was generated.
- A list of students who had outstanding balances with the university was compiled.

These areas were targeted because they would yield the most data regarding financial aid for the next academic year; would inform a model for accounting for these issues over the next few years; and would provide a mechanism by which to share this information with other pertinent offices on campus. For example, academic advising could be more vigilant with students who have to apply for re-admission or SAP.

“Moreover, as SEM has evolved, we have increasingly turned to technology to recruit, retain, and communicate with students whereas results should be about relationships” (Hope 2016). With the right formula of sensitivity, understanding and student engagement, data and technology can help build relationships and enhance student success.

Predictive modeling is utilized within enrollment management for a host reasons: strategic (enrolling a class, shaping a class, using population segmentation [*e.g.*, geographic, by academic ability]); budget (drive down marketing costs); and to demonstrate mathematically and empirically effective ways to implement a

data-driven culture of evidence at an institution (Henderson 2017). This article is the story of how one financial aid office successfully utilized social media and data to improve the student experience by minimizing lines.

Background

Winston-Salem State University is a public Historically Black College and University (HBCU) located in Winston-Salem, North Carolina. The Fall 2015 enrollment was 5,107, including 4,686 undergraduates. The Office of Scholarships and Financial Aid administers approximately \$65.2 million annually in federal, state, institutional, and non-institutional financial aid. Prior to making changes to previous processes, the director assessed weaknesses to determine what needed to be addressed: reports were ad hoc and were not written for financial aid but rather were modified from other offices’ information; staff turnover and lack of training contributed to poor processes for verification of financial aid. Potentially costly mistakes were being made that could lead to compliance issues with federal and state education agencies as well as accreditors.

The director also noticed a lack of robust, proactive engagement. As a result, panic mode typically set in sometime during July as it became evident that students were not as responsive or proactive as expected. This led to the creation of bottlenecks rather than the finalizing of freshmen and transfer cohorts or their enrollment or ensuring the engagement of continuing students. Lines were inevitable, as were students’ and parents’ frustrations and complaints.

Over the past five years, the Office of Scholarships and Financial Aid made a concerted effort to reduce the number of students who needed to visit one stop to sort out financial aid matters. Prior to this endeavor the office routinely encountered numerous obstacles and administrative hurdles; it was imperative for the office as well as for students that this initiative succeed.

Beginning in the 2014–15 award-year, the office started using various financial aid data to determine patterns of student engagement. Data from 2014–15 were compared to data from 2013–14 to see if the rates of response from students were similar for given time

periods; week was compared to week and month was compared to month. The impetus of this endeavor was the director wanting to ensure that the student experience was as efficient as possible. “Having understood

that this generation is used to ordering items online and receiving them immediately, via iTunes or within two to three days through vendors such as Amazon, it was better to utilize the power of the Internet and instant gratification rather than fight it” (Muhammad 2017).

Some students had become accustomed to waiting in lines for service at the beginning of each semester. This may have been the result of any number of reasons, including lack of student follow-through, low engagement by the institution, lack of sufficient staffing within financial aid, and perhaps poor flow of institutional processes related to admissions and financial aid. To address these issues and others, some institutions use a “one-stop” approach that has become a staple on some campuses. Due to systemic problems that may not be adequately addressed each year, one stop may have become a norm rather than an exception. “Ideally, it would be preferable to have students take care of issues prior to the start of each semester, rather than having an ‘administrative triage’ for the weeks leading up to the start of school and the drop/add period” (Muhammad 2017).

The Process

The director saw an inherent challenge with “one stop” and began to work with various offices to prevent having students wait in line for financial aid assistance. Offices enlisted for assistance were principally the registrar, admission, student accounts, and advising services. Reports were developed and shared among offices that provided details pertinent to financial aid completion. For example, admission and financial aid developed a report to identify admitted students who had not yet been awarded financial aid. Another report was developed to identify students who stated that

TABLE 1 ► Start of Fall Term (Third Week of August)

Academic Year	Verifications (%)	Awards (n)	Financial Aid Acceptances (n)
2016–17	84	5,510	3,504
2015–16	80	5,450	3,481
2014–15	78	5,227	3,518

they would *not* be attending the institution. Removing these students from contact lists and cancelling their aid (when applicable) focused efforts on those students who intended to enroll.

These reports had become an important tool for understanding the cohorts and making educated predictions regarding how to adjust office processes to accommodate them. Predictive modeling uses data mining and probability to forecast outcomes (Brownlee 2015). “Predictive modeling as a practice is typically outsourced to third-party consulting firms most often due to resources, as many colleges do not have the staff with in-depth knowledge of statistical modeling or the time to engage in deep analytical assessment of predictor variables and regression models” (Fleming 2016). Yet due to the intricate nature of these reports and the need for updated information to continue developing sound processes, it was most expedient for the director to both tailor the reports and have them produced.

Verification of financial aid records was outsourced to College Foundation Incorporated (CFI). This robust service enabled the prompt notification of students selected for verification. CFI provided a dashboard that allowed for a review of the number of notifications, rate of response, and number of verification completions. This information provided the foundation of a comprehensive verification and awarding report that the director reviewed daily.

The comparison of data from year to year became the foundation for changing how students were engaged. The director continued to develop new ways to engage students as populations were identified whose rate of response had decreased from the previous year. New ways of engagement included signage containing

TABLE 2 ► Engagement: On-Campus Outreach

Session(s)	Target Semester (Upcoming...)	Timing	Population
Pre-Fall	Fall	Mid August	All students
Fall	Spring	Early November	All students
Spring	Fall	Early/Mid April	All students
Summer ¹	Fall	June/July	Freshmen
Fall	Spring	Early November	Special populations (band, athletics)
Spring	Fall	Early/Mid-April	Special populations (band, athletics)

¹ During orientation

QR codes that led students to specific web content, targeted postcard mailings, targeted calling campaigns, and video vignette services via Financial Aid TV (this last provided a 24-hour customer service opportunity for students and parents).

The director also implemented a series of mini one-stop opportunities: Sessions were hosted for continuing students and special populations (*e.g.*, athletes and band members) during the spring term for the upcoming summer and fall terms. Sessions for incoming freshmen were also held during the summer. The concept was to provide opportunities for students and their parents to resolve any outstanding issues prior to students' arrival on campus for the fall term.

The director also began to speak with on-campus colleagues about the importance of total engagement, meaning that all employees have a stake in ensuring that students have a good college experience. Everyone can assist, provide a word of encouragement, and smile. Faculty and staff including groundskeepers, cafeteria workers, and administrative assistants all have an interest in ensuring that students are admitted, enrolled, pass their classes and graduate. Students who do not enroll or who "stop out" have an impact on the institution's financial bottom line.

The director determined that students who completed their FAFSA by mid July would likely be awarded financial aid and be ready to start on time for the fall

semester. The approximately four-week window of "crunch time" would allow for students to, if necessary, complete verification, accept financial aid, and engage with other processes. Students who completed the FAFSA after July 15 likely would need additional support in completing financial aid requirements. For the 2016–17 award-year, the director estimated that

approximately 300 students would still need to complete financial aid processes.

The hard work paid off: For the entire one-stop cycle, no lines formed in financial aid. Students who needed assistance had procrastinated or been admitted late to the institution. (Financial aid staff were available to assist these students.) As a result of financial aid's effective use of a variety of communication methods (including social media) and its strategic work with other offices, students no longer dread visiting the financial aid office.

When institutional messaging clearly communicates the answers to students' questions, challenges, and needs, it aids in the achievement of interwoven goals. Greater student success leads to increased retention—and, over time, a boost to an institution's reputation. This can be important as institutions compete for more and better-qualified students.

Epilogue

During the 2017–18 academic year, the director employed the same tactic and was rewarded—as previously—with no lines of students in the office. Financial Aid Services, Inc. used the office as a model and highlighted its achievement on its web page (FAS 2017). At various conferences and with colleagues, the president of FAS has consistently discussed the director's accomplishments and spoken about the university's continued innovation. This demonstrates that working within enrollment man-

agement and using predictive modeling lead to institutional—and, more important—student success.

Engagement is the new retention. SEM is inclined to build campus partnerships and exploit data and technology to create a holistic framework for student engagement throughout the academic journey. The SEM of engagement as the new paradigm of retention will make the student journey the focal point of enrollment management.

Other administrative offices are beginning to understand that full-time enrollment (FTE)=full – (FTE). By extrapolation, these partners are also understanding that $FTE = FTE = FTE$ —that is, full-time engagement=full-time enrollment=full-time employment. This symbiotic relationship has been beneficial not only in the short term as connections among campus partnerships are developed but also in the long term, especially as these affiliations continue to mature.

About the Authors

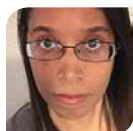


Robert Muhammad

Robert Muhammad, M.B.A., is Director of Financial Aid at Winston-Salem State University. He

has served as director for seven years and is the 2018-19 President-Elect for NCASFAA. His research interests include minority male mentoring initiatives, first-

generation and low-income students, financial aid innovations, business efficiency in higher education, and predictive and prescriptive analytics.



Kristen McManus

Kristen McManus, Ed.D., currently serves as a dissertation consultant as well as on the Historic Resources Commission for Forsyth

County in Winston Salem. She served previously as assistant director for minority academic services at the University of North Carolina at Charlotte. Her research interests include business efficiency in

higher education, the effects of social media on work environments and predictive forecasting.

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