Explore Advising Technology Across The Student Journey

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WHAT IS ADVISING TECHNOLOGY?

**Advising Technology** refers to the source systems, advising tools, and add-on student support features that provide information from and about students to institutions. The application of one or more of these technologies introduces efficiencies by automating common transactional elements of planning and advising services, enabling more opportunities to create and foster meaningful relationships between the student and their advisor(s) and promoting intentional and holistic advising by design.

The information collected and analyzed using advising technology can also assist institutions in learning more about how strategic, personalized attention and support can be offered to meet the specific needs of students and further their success. Through the use and application of advising technology, institutions can advance more equitable, high-quality, and effective programs and policies that center the experiences of Black, Latinx, Indigenous, Asian, Pacific Islander, and poverty-affected students and ultimately improve student learning outcomes.
**ABOUT THIS RESOURCE**

The practice of advising is increasingly taking on both broader and deeper meaning, particularly as institutions strive toward a vision of holistic student support. The Advising Success Network (ASN) does not promote a single model or approach to advising, but rather views advising as a critical component of student success, and a “bright star” in the integrated constellation of student supports at an institution. The advisor-advisee relationship supports students as they identify and attain their academic, career, and personal goals. The network defines “advising” as encompassing more than the student interaction with an advisor, to also include the structure and operations of academic advising; the roles and responsibilities of primary-role and faculty advisors; and advising pedagogies, approaches, and models.

As institutions adopt a more holistic approach to advising, the market is responding; consequently, the already complex universe of advising-related technology tools is also expanding.

This advising technology ecosystem of tools and products is a large and ever-shifting one. Vendors’ product roadmaps continuously evolve to add or update features. Niche companies with targeted tools or new functionality pop up and are acquired by larger companies. A tool might be positioned as a full standalone product by one vendor, and then sold as included functionality within another vendor’s more robust product. As institutions seek to purchase new tools or enable additional features in a previously implemented solution, it is critical to consider the ways in which the existing systems may need to be restructured or modified to properly integrate and interact with one another.

For institution leaders, IT teams, advisors, student support leaders, and the many others increasingly involved in procuring, implementing, or using advising technologies, navigating this landscape can be, in the words of one community college Chief Information Officer (CIO), “mind-meltingly complex and frustratingly inconsistent.”

This resource aims to simplify and clarify the advising technology space by connecting it back to the thing that matters most: the student journey.
Each section follows a hypothetical student, Luis, through major milestones from pre-matriculation through post-graduation.

Throughout this resource, the milestones describe the strategic, sustained, integrated, proactive, and personalized (SSIPP) advising practices that might be employed during that milestone. These SSIPP design principles and building blocks offer a framework for institutions to scale holistic and equity-minded advising and student supports at scale (Karp, 2021; Chamberlain & Burnside, 2022). In addition, each milestone features the technology tools that undergird the described advising or student support practice, as well as a set of considerations for adoptions for these tools and/or features. Relevant SSIPP principles supported by the combined technology and practice described in the milestone are also highlighted throughout this resource.

Of course, this resource does not touch on every student milestone or every single niche advising technology in the field. Certainly “Luis,” as a hypothetical student navigating an associate degree at a brick and mortar institution, cannot capture the nuances and many variations of student journeys. Rather, the resource focuses on several of the most common milestones, categories, and technology tools that are most widely used within and integral to the advising space. It is also informed by the current literature and barriers that first-generation, poverty affected, and/or racially minoritized students experience while navigating through their college experience.

In this way, we envision that this resource will provide a streamlined, common ground for institution leaders and practitioners to better understand how advising technology is interwoven with, and can deeply impact, broader advising strategy and practice.

In short, in a “mind-meltingly complex” landscape, we hope this can serve as an accessible and grounding starting point for your advising technology journey.
To create this resource, The Ada Center, in partnership with EDUCAUSE, leveraged the bibliography of resources from the field, focusing on recent assets developed by Advising Success Network (ASN) partners, landscape scans and large-scale surveys conducted by Tyton Partners in 2021, and practitioner, vendor, and student interviews conducted by The Ada Center across 2022. To bring this resource to its final form, Substantial, a research, design and build consultancy, provided the information architecture, visual design, and final layout of this document and partnered with Dr. Chris Nelson of the University of Denver to conduct an equity review of the content.

Core and enterprise systems which supply key data into other advising technologies, such as the student information systems (SIS) and learning management systems (LMS), are not specifically profiled in this resource. However, these types of tools are mentioned throughout the content because they enable advising technology features and functionality.
ABOUT THE ADVISING SUCCESS NETWORK

Formed in 2018, the Advising Success Network (ASN) is a dynamic network of five organizations partnering to engage institutions in holistic advising redesign to advance success for Black, Latinx, Indigenous, Asian, and Pacific Islander students and poverty-affected students. The network develops services and resources to guide institutions in implementing evidence-based advising practices to advance a more equitable student experience to achieve our vision of a higher education landscape that has eliminated race and income as predictors of student success.

The ASN is coordinated by NASPA - Student Affairs Administrators in Higher Education and includes Achieving the Dream, the American Association of State Colleges and Universities (AASCU), EDUCAUSE, NACADA: The Global Community for Academic Advising, and the National Resource Center for the First-Year Experience and Students in Transition.
Milestones & Products

Each advising technology falls into one of three product focus categories. The milestones represented in Luis’ journey each contain at least one relevant product or bolt-on application.

MILESTONES
Each milestone leads with a student journey narrative. This helps us empathize with the student and better understand where certain products may help them along the way.

01 Inquiry & Recruitment
02 Application & Financial Aid
03 Onboarding
04 Orientation & Goal Setting
05 Degree Planning & Registration
06 Proactive Advising
07 Ongoing, Holistic Student Support
08 Degree Progress
09 Completion & Post-Graduation
10 Analysis & Continuous Improvement

PRODUCT CATEGORIES
Advising Technology products include standalone tools, bolt-on features of standalone tools, and niche products that fit into one of these three main categories:

- Prospect Advising
- Core Academic Advising
- Whole Student Journey Advising

PRODUCT RELATIONS
Some products are features or bolt-ons of larger products while others may be standalones, but are often (but not always) paired with other products. Use the key below to identify these relationships:

- Feature / Bolt-On
- Often Paired
Inquiry & Recruitment

Luis attends a college recruitment event and, after deciding he's interested in the college, fills out an electronic form where he indicates his communication preferences, areas of academic and co-curricular interest, and basic demographic information. He receives a follow-up text later that day thanking him for attending the event and letting him know that more information will be coming to him soon.

The following week, Luis receives a personalized letter and email encouraging enrollment at the college, a main point of contact at the college to help with onboarding questions, and a link to a portal with a personalized task list of key steps. With the follow-up nudge, Luis decides to click into the college application to learn more.

**TOOL(S) IN THIS MILESTONE:**
- Prospect Engagement
- Customer Relationship Management (CRM)
- Prospective Student Portal
PROSPECT ENGAGEMENT CRM

A system to manage applicants and interactions in support of student recruitment and enrollment activities. Such efforts can therefore become more strategic, personalized, and sustained across the prospect-toapplicant journey.

Description:

Prospect Engagement CRMs help to prioritize outreach and track communications with prospective students. Prospect profiles focus on contact interaction and admissions progress. These tools are typically used and maintained within a single department or a few closely related units (e.g., recruitment and admissions). Features help to track and support a prospective student from inquiry through application and enrollment.

Prospect Engagement CRMs can come with a wide range of functionality that vendors package differently. Some products come with built-in, robust features, including:

- More advanced outreach and analytics capabilities
- Built-in or integrated application tools
- An event management tool

Others offer only more foundational prospect profile and outreach capabilities, with the option to buy these other features as separately packaged products.

Secondary Tool

PROSPECTIVE STUDENT PORTAL

Prospect-facing portals typically include a user-friendly interface that tracks all to-dos for prospective students in one place. Many will include prospect-facing application and application guidance, tasks related to financial aid, and/or notices about upcoming recruitment and enrollment events. Prospect portals, in addition to helping to make the enrollment process feel more integrated for students, also allow recruiters to be more proactive in their efforts.

Prospect Portals can feed data on student progress to the Prospect Engagement CRM, allowing recruitment and enrollment staff to continuously add to the prospective student’s profile as that individual interacts with the institution. Sample data fields may include: Name, Contact Information, Interaction History (e.g., events attended), Communication History, Field of Interest, Demographic Information.

Equipped with these profiles, recruitment and enrollment staff are empowered to create a more personalized approach to their outreach efforts.

These two products are often, but not always paired together.
As Luis progresses through the application and other to-dos on his prospect portal, a chatbot provides quick answers to his ad-hoc questions. But when Luis starts asking more complex questions about financial aid and the FAFSA, the chatbot connects Luis with a recruitment and enrollment guide. The guide lets Luis know that the college will be hosting events across the community, including at the local high school, as well as virtual sessions to encourage participation from students who prefer to participate from home and/or to offer the option to involve their family or community members. Recruitment and financial aid office staff will be on-site, or available via remote appointment, to help with applications and the FAFSA. Luis finds a slot that works for him, signs up, and with the on-site help, completes his FAFSA and application.

**TOOL(S) IN THIS MILESTONE:**
Chatbots
CHATBOTS

Description:
Chatbots are increasingly used across institution websites and portals to offer prospective students and enrolled students the ability to get quick answers to common questions and/or access to key resources without needing to search across institution webpages. The chat window automatically pops up when a student or prospect arrives on a certain webpage or portal link to ask whether the student needs assistance. From there, students can converse with the chatbot to get the answers or further resources they need. When the chatbot cannot answer a students’ question, it can help to triage the student to advisors or support staff.

This allows the institution to be more strategic about how advisors and support staff use their time. Freed from hundreds of one-off, “transactional” questions, advisors and counselors can spend more time with students that need deeper assistance.

Note:
CHATBOT DESIGN, USAGE, AND SETUP
There are a wide range of users who may want to interact with the chatbot, including individuals who support prospects/students (e.g., parents, family members, community supporters). Work with your vendor to ensure that the chatbot’s communication is designed to be inclusive of all these audiences. Additionally, consider what topics/questions the chatbot should handle, and when should things be handed off to institution staff.
Onboarding

An onboarding navigator is notified of Luis’s enrollment. By consulting information collected across his enrollment process, she can proactively reach out to connect Luis to his student portal.

The portal features various onboarding resources and a personalized to-do list. First on the to-do list is an intake survey, offering the opportunity for Luis to share information about himself (such as preferred pronouns and preferred name) and a sign-up link for the college’s upcoming orientation sessions.

**TOOL(S) IN THIS MILESTONE:**

Student Portal

- Onboarding Checklist & Intake Survey
STUDENT PORTAL

A personalized landing site that provides sustained guidance to students on next steps, integrated and centralized access to institutional resources, and an efficient means of identifying and communicating with key support personnel.

Description:

Several vendors and Case/Cohort Management System (CMS) products with CRM features include student-facing portals that integrate with their broader advisor and administrator-facing CRM apparatus. In other cases, student-facing components may be sold as independent products and/or institutions may choose to implement a “homegrown” portal. Note that “mixing and matching” student portals and Case Management CRM products from different vendors may create integration issues that affect the efficacy of both the Case Management CRM and Student Portal features. Exemplary portals are built to meet accessibility standards and are usable on mobile as well as desktop platforms.

If a Learning Management System (LMS) serves as a students’ digital classroom, the student portal serves as the students’ digital campus hub. Institutions must consider: What key student journey milestones should be highlighted in the student portal? What features or tools can we embed in the portal vs. link out to, keeping in mind that students strongly prefer to have “everything in one place” as much as possible? In what ways or at what points in the student journey would we want the portal to strategically adapt to provide more personalized guidance (i.e., if a student indicates that they are a parent, then their portal should update to highlight on-campus child care resources)?

Onboarding Checklist & Intake Survey

When a student enters an institution’s Student Portal for the first time, they are typically met with some form of an intake survey and onboarding checklist. This feature allows entering students to see all major onboarding steps and resources integrated into one place, and to track their progress through each of these milestones. Intake survey questions, if integrated with the Case/Cohort Management CRM system, can help to populate the student’s profile, reducing the need for a student to “tell their story” multiple times to different faculty and support team members.

Information collected through the intake survey portion of the feature can also help to shape and personalize the onboarding checklist. Advisors and support team members may be able to view students’ onboarding progress, add suggested resources based on students’ specific needs, and/or proactively intervene if students get stuck on an onboarding step.
Orientation & Goal Setting

As Luis completes the intake survey and signs up for orientation, a Case/Cohort Management System with CRM functionality updates his profile, allowing the rest of his Success Team (i.e., counselor, academic advisor, financial aid counselor, etc.) and eventually, other support staff he may need, to learn more about him.

During orientation, Luis and the onboarding navigator discuss the interests and goals Luis has indicated on his intake survey. Luis expresses an interest in science and in helping people but is unsure of which specific program he should pursue. His navigator pulls up a self-reflection and career exploration tool to help Luis articulate his personal interests, needs, and goals, and explore different post-graduation options, examining factors like credential requirements, job descriptions, job prospects, and salary ranges.

**TOOL(S) IN THIS MILESTONE:**
- Case/Cohort Management System (with CRM functionality)
- Career Exploration & Planning Tools
CASE/COHORT MANAGEMENT SYSTEM (WITH CRM FUNCTIONALITY)

A system that enables a Success Team, including advisors, to document and share information about their student’s journey, field incoming requests, and support inquiries that require actions or follow-up.

Description:

While some institution staff may call these systems “CRMs,” those closest to student success IT strategy, including CIOs, institution IT implementation leads, and vendors themselves, note that a more accurate descriptor might be “student success tools with CRM features,” “case management tools,” or “cohort management tools.” This is because, far beyond the typical communications focus of CRMs across industries, these tools increasingly include a much broader set of features.

At a high level, Case/Cohort Management tools:

1. help advisors sort/filter students to prioritize and personalize efforts
2. enable strategic, proactive outreach/communication planning aligned with critical points in the school year and/or across individual student journeys (e.g., embedded CRM functionality and/or ability to integrate with a third-party CRM), and
3. aggregate knowledge/insight about students (individually and collectively) to coordinate action across departments for more strategic, sustained, integrated, personalized, and proactive student support and intervention.

Note:

FUNCTIONALITY & BUNDLE OPTIONS

The functionality of these products varies widely. A basic Case/Cohort Management tool might include an advisor dashboard view, appointment scheduler, and basic CRM (e.g., filtering, outreach, communications tracking) functionality. A more robust system might also bundle in advanced analytics, multiple user view options, and a companion student portal.
CAREER EXPLORATION & PLANNING TOOLS

Description:

Career exploration and planning tools have continued to evolve, increasingly merging features for students, recent graduates, advisors and career services staff, and employers. Some are embedded in Student Portals, while others are stand-alone products (but may be linked to within Student Portals).

Many offerings may include career exploration tools, résumé review functionality, information linking a program of study with potential careers in a selected geographic location, and/or practice interviews or tutorials with on- or off-site career professionals.

Students also use job board applications to seek part-time work or internships during the school year, as well as opportunities such as apprenticeships, fellowships, and career shadowing / experiential learning opportunities.

Advisors and counselors are expected to connect students with these tools and other resources to improve students’ own abilities to navigate the exciting but complex task of setting and executing on post-graduation goals. At exemplary institutions, conversations about career aspirations, often aided by the features and data offered through these tools, happen early and often throughout the student journey.

Note:

BOOST USAGE

Simply having this tool available does not guarantee that students will use it. Exemplary institutions embed career advising and post-graduation goal setting early-on in the student journey and incorporate these tools as part of that guided conversation. While exploring career data, institutions should ensure that students are also empowered to think about their broader life goals and the academic credentials required for various career paths. What are their interests? What kind of lifestyle do they envision for themselves (and, if applicable, their families)? Are they interested in pursuing further education to attain a bachelor’s degree or more?
Luis determines that healthcare may be a good fit for his interests and goals and learns from the healthcare program advisor that different healthcare pathways, especially Nursing, will come with different requirements – like a minimum GPA – down the road. To keep his options open, he and his onboarding navigator build a degree plan for his first term, which will allow him to explore the broader healthcare pathway before deciding on a specific program next term.

Next, Luis and his onboarding navigator work together to register for his first term. Luis explains that he will not be available on Wednesday afternoons because of his part-time job and would prefer to take most of his courses in-person. The onboarding navigator shows Luis how to input these preferences, generates a course schedule that fits these parameters, and helps Luis to register for those courses.

**TOOL(S) IN THIS MILESTONE:**
- Degree Planner
- Course Scheduler & Registration
DEGREE PLANNER

Enables students and advisors to co-create personalized, term-by-term course plans aligned with student degree requirements, needs, and goals.

Description:

In their ideal state, degree planning tools have an intuitive user interface for both students and advisors. Sometimes Degree Planners can be embedded within a centralized Student Portal for students and easily accessible through advisors’ Case Management systems (if available). Other times, they are bolted on or included with the institution’s Degree Audit system.

Even if they are not part of the Degree Audit, Degree Planners should be able to reliably pull accurate degree rule data from the institution’s Degree Audit system to ensure that students stay on-track and aligned with the institution’s existing requirements and course offerings.

Note:

TOOL DATA ACCURACY

The accuracy, and therefore the utility, of any degree planning tool relies on degree data integrity and accessibility of the Degree Audit. At many institutions, degree data (e.g., degree requirements, requisite requirements, etc.) can be outdated, inaccurate, or incomplete. Consider the processes that should be in place to maintain degree data integrity, as data issues are carried over into the digital academic plan. Alternatively, some Degree Audit systems do not integrate effectively with academic planning tools from other vendors. Be sure to consider this during the procurement and implementation processes.

Often paired with following product: Course Scheduler & Registration
Feature/Bolt-On to Degree Audit product from Milestone 8
**COURSE SCHEDULER & REGISTRATION**

A tool for students to translate their degree plan – or list of courses they need to complete in a given term – into a course schedule, allowing students to register for classes that align with their academic requirements and life contexts.

**Description:**

Course Scheduler and Registration tools may offer a variety of features to help students select a personalized schedule that balances and integrates their academic course requirements with their life obligations and needs. Most offer the ability for students to block off days/hours when they are not available, input modality preferences (i.e., in-person or virtual), and auto-generate a few options of degree plan-aligned schedules for students to choose from. Once a schedule is selected, advanced tools allow students to register for all courses at once in one click.

**Note:**

**TOOL EFFICACY**

For course scheduling tools to work effectively, institutions will need to plan in advance when/where courses will be offered and in which modality (in-person, virtual, hybrid) they will be presented. Institutions should consider whether the institutions should move toward a student-centered (rather than faculty or administration-centered) scheduling approach. Functionality of the Course Scheduling and Registration tool/feature may also vary depending on the strength of integration between this tool and other adjacent tools, including: Degree Planner, Degree Audit, SIS, Student Portal, Case Management System.
Several weeks into the term, Luis earns a high grade in Biology 101 and expresses interest in the possibility of majoring in STEM or adding a pre-health concentration. Reviewing Luis’s profile, the advisor notes this interest and identifies additional resources to share with Luis to help him maintain his high grades and achieve this goal.

Several months later, Luis’s advisor receives an alert from Luis’s professor that Luis missed an important Biology class and a required lab session. Seeing the alert, the advisor sends a personalized note to check on Luis and to ask if he wants to chat. Luis sees his advisor’s message. It comes with a helpful link to schedule an appointment. Luis clicks the link and sets up a time that works with his schedule. When he arrives at the advising center, there is a kiosk for him to sign in, letting his advisor know that he has arrived.

**TOOL(S) IN THIS MILESTONE:**
- Alerts — Case/Cohort Management System
- Appointment Scheduling + Kiosk
ALERTS — CASE MANAGEMENT SYSTEM

A bolt-on feature, typically for Case/Cohort Management Systems (CMS), enabling faculty and other support staff to send an early signal to one another – or to the student – that the student may need additional support.

**Description:**

Alert systems are typically a feature or bolt-on to Case/Cohort Management Systems (CMS) and work in tandem with other features (e.g., Notes & Referrals, Predictive Analytics, Nudging) to allow Success Teams to coordinate and communicate students' need to appropriate staff.

Alert systems often also integrate with an institution’s Learning Management System (LMS), allowing faculty to "trigger" an alert based on falling grades, absenteeism, or other challenges they may witness in the classroom.

When implemented effectively, alerts help institutions to offer a more proactive and strategic approach to intervene with the student. In the ideal use cases, staff can then prioritize advising and support efforts that get the student back on track.

**Note:**

**COGNITIVE OVERLOAD**

An overabundance of alerts can overwhelm users, who may then ignore the alerts altogether, negating the efficacy of the tool. Exemplary institutions specify exactly how they would like to use their alert system. They consider: Who should be able to trigger an alert? Based on what data or rationale? Effective protocols include clear instructions about WHO is responsible for taking action, WHAT the action/intervention should be, BY WHEN the intervention should be completed, and HOW the responsible party will indicate that action was taken and/or communicate next steps.
A product that helps organize appointment-based interactions by automating the scheduling process, offering calendar availability integrations, and sending automatic reminders. Adding an accessible kiosk can further streamline the check-in/check-out process for meetings.

**Description:**

Appointment scheduling and kiosk technologies are increasingly used by students to set up, reschedule, and cancel meetings with advisors, tutors, professors, and other school staff and offices (and vice versa). This technology can sometimes be integrated as part of an institution’s Case/Cohort Management System, allowing for integration of student and staff calendars, along with a display of key notes inserted by a student or staff member.

When a kiosk function is available and enabled as a part of appointment scheduling software, students can self-service check in to their appointments. Kiosk functionality can also keep a record of the visit, track time within an appointment, or allow for drop-in visits when a student has not made a formal appointment.

**Note:**

**CMS VS. CRM INTEGRATION**

While many Case/Cohort Management Systems have built in appointment scheduling and kiosk functionality, institutions with multiple CRMs [i.e., a prospect management CRM and an enrolled student Case Management System + CRM Features] may need to use separate appointment scheduling and/or kiosk applications for different use cases. This may add more complexity to staff training and can also confuse students who are not familiar with multiple appointment scheduling and kiosk products.

In certain cases, an institution may desire to integrate a third-party appointment scheduling/kiosk offering into its existing Case/Cohort Management System or CRM to provide features not native to those tools, such as bi-directional communication or integration with applications such as Microsoft Outlook or Google Gmail.

Often paired with a Case/Cohort Management System
Ongoing, Holistic Student Support

Luis informs his advisor that he missed a key class and laboratory session due to a car accident. As a result of this incident, he is now struggling with new concepts covered during his absence. Luis’s advisor helps him submit a request for emergency funding to subsidize the costs of repair, gives Luis a referral to the biology tutoring center, and plans for Luis to speak with the biology professor. The advisor adds these notes to Luis’ student profile, and his Student Portal is updated with new, personalized tasks: Set up a tutoring appointment and meet with the professor. When Luis arrives at the tutoring center and checks in, his tutor has already read the advisor’s note, greets Luis by name, and knows exactly how to help.

With help from the tutor, Luis finishes the term with a strong GPA. Between terms, he takes on a new job and almost forgets to register for classes. Thankfully, he receives proactive text message nudges that both congratulate him on his progress and remind him of the upcoming registration period.

TOOL(S) IN THIS MILESTONE:
- Holistic Profile, Notes and Referrals — CMS
- Nudging — CMS
A bolt-on feature, typically for Case/Cohort Mgmt, enabling staff and faculty to coordinate student supports. Advisors may document new interactions with students, refer students to other depts., or review notes entered by colleagues.

Description:

One core feature of Case/Cohort Management Systems is the ability for users to view critical information about students, including student profile information, student activity, communication logs, and student interactions with various departments across campus.

Case/Cohort Management Systems endeavor to provide institutions with a means to coordinate student support and communication. Users may log their interactions with students, refer students to other departments as needed, and view other notes about the student made by other support team members.

Some standard CRM products used across industries may also be configured to provide similar functionality. In some cases, these CRM tools may offer a degree of flexibility that Case/Cohort Management Systems built for higher education cannot offer. However, the customization and configuration process can be tedious, and some CRM vendors may structure pricing in such a way that makes scaling the product to additional end users (e.g., advising department and financial aid and counseling, etc.) prohibitively expensive.

Note:

**DATA PERMISSIONS**

Notes may include sensitive information about students that not all offices should be able to see. Institutions should carefully map out access and permissions within the Case/Cohort Management System.
NUDGING — CMS

A bolt-on feature, typically for Case/Cohort Management, that allows faculty or staff to proactively send short messages (often automated, via text message) at key intervals and milestones in support of the student’s journey.

Description:

Nudging platforms, embedded within or integrated with Case/Cohort Management Systems, help to orchestrate these text message campaigns. When students text back and/or answer a short survey question posed in a nudge (e.g., How stressed are you feeling? Very, A Bit, Not at All), the platform can also initiate a sequence of follow-up activities based on the student’s response (e.g., If a student is “very” stressed, an advisor might be prompted to reach out). Some studies have shown that, used effectively, nudges can positively impact student retention and success. Some Case/Cohort Management Systems include a built-in nudging feature; others rely on add-on products that may be described as nudging tools or niche CRMs.

Note:

TARGETED FREQUENCY

Nudging is most effective when it is targeted and used sparingly. If students receive too many nudges, they may begin to ignore them. If investing in both a Case/Cohort Management System and a niche CRM/nudging product bolt-on, institutions should carefully consider how these tools will be integrated and used. Duplicative technology features can cause confusion amongst end users and may make it difficult to track and coordinate communication with students, thereby limiting the efficacy of both products.
Degree Progress

At his next advising and registration appointment, Luis’s advisor reminds him that he’ll need to make a decision about which pathway within the healthcare field he’d like to pursue. Luis shares that his conversations with faculty have piqued his interest in either Radiologic Technology or Nursing. His advisor shows Luis how to use a Degree Audit tool to explore how his credits to-date apply to each program of study and to visualize how his degree plan would need to proceed to complete either credential. Luis sees that the Nursing pathway will require a Bachelor’s degree and that he will need to be careful about which courses he selects to ensure that his credits will transfer to the local university. After considering each pathway and his own goals and interests, Luis decides to pursue Radiologic Technology.

As Luis progresses through his courses over the coming terms, he refers back to his Degree Audit to make sure that he is still on-track for graduation.

TOOL(S) IN THIS MILESTONE:

Degree Audit
DEGREE AUDIT

A critical education technology that stores all degree requirements and progress data. Provides an analysis of a student’s progress towards a given degree, certificate, concentration, or learning path.

Description:

Many Degree Audit tools also offer the ability to conduct “what-if” analyses. A “what-if” analysis allows a student or advisor to see how a student’s credits might articulate to a variety of other degrees, majors, concentrations, certificates, etc. outside of the pathway a student is currently pursuing. This is a helpful tool for students considering a program change. Some may also include the ability to explore how credits transfer to partner institutions.

Alternatively, some institutions choose to invest in standalone transfer articulation analysis tools for this functionality.

Degree Audit vendors may also offer companion Degree Planner tools, which offer a more user-friendly means of both planning individual, term-by-term course maps that meet degree requirements as stored in the Degree Audit. Others may attempt to integrate with third-party tools.

Note:

API INTEGRATION

Many institutions struggle with outdated, inaccurate, or complex degree requirements; additionally, the process to input and update degree requirements into degree audit systems can be onerous. These issues and complexities then result in inaccurate degree audits for students, and hinder the efficacy of tools, like Degree Planners, that rely on accurate degree audit data.

Depending on their backend configuration, some degree audit systems can more easily integrate with third-party student success technologies than others. Allow your CIO/CTO to thoroughly interrogate how degree requirement data flows to and from these tools, and whether that integration relies on APIs or other connectors that will need to be continuously updated over time.

*Parent product to the Feature/Bolt-On Degree Planner from Milestone 5
Completion and Post-Graduation

As Luis approaches his last term, he receives an automated email and several nudges from his advisor reminding him to visit the career center and job board, sign up for résumé reviews, and to apply for graduation. His advisor has been able to sort and filter her caseload to target her pre-graduation outreach to all students, like Luis, who are on-track to complete their credentials in the coming term.

After Luis graduates, his college continues to reach out with relevant opportunities to upskill or to connect with other alumni from similar backgrounds who can serve as career mentors. One day, Luis is invited to connect with new and rising healthcare students, like 20-year-old Javi, that he can eventually hire for open positions at the medical center where he works.

**TOOL(S) IN THIS MILESTONE:**
- Prospect Engagement Customer Relationship Management (CRM)
- Alumni & Advancement Customer Relationship Management (CRM)
A bolt-on feature, typically for a CMS, that provides faculty and staff the ability to sort, filter, and group students by attribute to help advisors and support staff strategically craft outreach and communication efforts to specific cohorts.

Description:
Systems can create groups of students to be assigned en masse to a specific advisor or support team. For example, all healthcare students might form one cohort. Other filters can be used for advisors and support staff to sort and filter students within a subgroup or cohort.

For example, an advisor assigned to healthcare students might filter their list of students by where they are in their pathway to send outreach pertinent to that specific phase of the student journey (e.g., # of credits completed or left to complete, progress on a specific milestone, like graduation application).

Note:
DATA UPKEEP
Users can only filter based on the data fields that the institution has been able to include in the Case Management System. If advisors, for example, want to be able to filter for students who are a part of a specific club or scholarship program, the system must have already been configured with the appropriate data fields and capabilities to “tag” all students who are a part of those programs. If this data is stored in another system (e.g., a student life-focused CRM), institutions will need to be vigilant about auditing the degree of integration possible between these tools before assuming insights in one can be easily ported to the other.
A means to maintain communication with college alumni following graduation and/or to connect the institution with community-based organizations and businesses with targeted outreach campaigns, providing sustained support and engagement with alumni.

Description:
Alumni and Advancement CRMs are designed with a specific target audience and user in mind. In this case, the Advancement Office and/or Workforce Development Center and/or Career Center tend to be the primary users, and college alumni and/or community-based organizations and businesses tend to be the intended audience for outreach.

Outreach may focus on generating donations, partnerships, and/or general community engagement with the institution. An Advancement Office might create targeted outreach to all health care pathway alumni, for example, to solicit donations to upgrade a student-run clinic. The Workforce Development Dean might reach out to several local employers to explore their interest in collaborating on a new certificate program. Or the Career Center might reach out to any number of alumni or community members to support a student mentorship program.

Unlike Prospect Engagement CRMs or Case Management CRMs, this tool tends to be focused almost exclusively on targeted communication campaigns. Ideally, this helps to provide sustained support for and engagement with former students and community members.

A typical interface might include basic contact information, various data fields to sort and filter contacts, and a record of interaction. For alumni, profiles might also include some information from when the alumnus was a student (e.g., program of study, student clubs, graduation year).

Note:
Targeted Frequency
The outreach targets for this kind of CRM system can be deeply varied and multi-faceted. For example, an alumna may also be a current employer, or a donor, or a critical community member, or all of the above. Institutions should carefully consider how to build and update the structure of this CRM to accommodate the many types of relationships and perspectives that a single individual may have with the institution. Overcommunicating with a subject or communicating with a subject without their consent to do so after graduation, may also cause that individual to ignore all outreach. Consider what processes and guidelines should exist to ensure that people can opt in and out of messaging and are not overwhelmed with outreach from different departments.
Analysis and Continuous Improvement

College leadership can analyze the activities and experiences of students like Luis to understand the interactions most closely tied to positive outcomes for different student populations. These analytics can also be used to guide personalized outreach and support to students like Luis, such that Luis and his peers continue to receive the support they need throughout their journey.

**TOOL(S) IN THIS MILESTONE:**
Analytics & Data Dashboards
A means to measure, analyze, and visualize data from multiple sources, providing high-level insights into a student’s journey and informing advisor-student interactions with meaningful focus areas and critical topics.

Description:

When vendors reference “analytics,” this actually refers to several types of data analysis, interpretation and visualization functionality:

- Descriptive analytics summarizes what has happened at the institution.
- Predictive analytics uses past trends to suggest what could happen in the future.
- Prescriptive analytics offers insights into what an institution should do given a specific scenario.

The advantage of these tools over a more standard database is that they tend to be fairly user friendly, and can present data insights more visually, making it easier for faculty and staff without a data or IT background to understand various patterns and trends and, ideally, be more strategic in future student success and equity efforts.

Note:

TYPES OF ANALYTICS

All analytics tools can provide descriptive analytics, and some provide predictive analytics. Prescriptive analytics are still fairly nascent in the field and, just like other analytics insights, should be used more as one research input to broader strategy discussions rather than a “silver bullet” answer to retention, success, or equity efforts. All three types of analytics heavily depend on the quality and accessibility of the data that the institution has available. Institutions must provide adequate training to ensure that analytics tools do not inadvertently exacerbate equity gaps.
Cross Product Considerations

Just as institutions are intentional about how physical spaces on campus are configured for students, so should they be intentional about how advising technologies are configured to fully integrate key resources and services for students, faculty, and staff in a way that is inclusive and accessible. Careful planning is a prerequisite for any advising technology implementation.

The following considerations should therefore be taken into account, regardless of the specific product an institution is implementing:

- Access to Technology
- Student Inclusion & Equity
- Advising Strategy Planning
- Technology Prioritization
- Data Governance
- Data Sharing
- User Training
- User Buy-In & Usage
CONSIDERATIONS 1–4

ACCESS TO TECHNOLOGY
Remote learning in 2020 resulting from the COVID-19 global pandemic revealed an ongoing pain point for many students around reliable connectivity and access to internet, availability and use of computer and smartphone devices, and training and onboarding for other required technologies for full participation in academic work and other aspects of the student experience.

STUDENT INCLUSION & EQUITY
Institutions will need to develop a shared understanding of equity and inclusion goals and outcomes, and clarify the ways in which they will collect and apply disaggregated data to achieve them. Institutions will also need to consider how first-generation, non-native English speakers, students with disabilities, racially minoritized, and other student populations will interact with technology throughout their advising journey. “College students are not a monolith; there is no single student experience, and the unique combination of every individual’s identities, motivations, and goals is complex and fluid” (Chamberlain & Nasirk-Kotha, 2021, p. 6). The best way to configure technology with a specific student identity or experience in mind is to invite feedback from and participation of students themselves. Exemplary institutions conduct interviews and student focus groups, and they include diverse cross-sections of students in vendor pitch presentations and ensure diverse students pilot the tool during configuration/implementation.

ADVISING STRATEGY PLANNING
Many student success products can be configured to meet the unique advising processes and needs of an institution; this malleability in turn means that institutions should be prepared to discuss and plan for the many people and process implications of an advising technology adoption ideally before technology implementation begins. If an institution has not clearly articulated its intake and advising processes, support team member roles and responsibilities, etc., implementation can become fraught, leading to reduced technology efficacy and limited and user buy-in/usage. Resources such as EDUCAUSE’s Success Factors for Advising Technology Implementation and others listed in the bibliography can support institutions through this process.

TECHNOLOGY PRIORITIZATION
Institutions with the smoothest implementations rarely implement all the system’s features at once, as this can overwhelm an IT department and cause project teams to overlook key planning steps. Instead, effective leaders take a phased approach, carefully prioritizing which features to “stand up” first, and which will be added in at later stages. Often, a set of core principles (e.g., “Student needs first”) can help to guide this prioritization process. The Ada Center’s Advising Technology Planning and Procurement Playbook provides step-by-step guidance on this process.
CONSIDERATIONS 5–8

DATA GOVERNANCE

Data availability, access, and accuracy impact the efficacy of advising technology tools. When a feature does not work as anticipated, the root cause can often be traced to some data-related issue. Perhaps an end user group is not inputting information into the system, compromising the availability of a data field. Or perhaps a degree audit system’s degree requirements are coded in such a way that it is challenging for third-party systems to integrate with that data. Before implementing any new advising technology, experts advise that institutions audit their own data and data practice and get clear guidance from their intended vendor about which existing systems’ data the new advising technology will need to leverage. Resources such as EDUCAUSE’s Understanding and Developing a Data Informed Culture and others listed in the bibliography can support institutions with this.

USER TRAINING

Adequate professional development and training is imperative for any student success technology acquisition. In addition to addressing how to use these tools, institutions with the strongest training protocols also discuss how tool use – and misuse – can impact student success and equity. Increasingly, technology usage should be a critical part of institutions’ broader DEI training, discussions, and policy implementation. Additionally, for products that students will use, there should also be training opportunities and materials available to assist students as needed.

DATA SHARING & PRIVACY

As the institution increasingly collects and generates data and analytics from and about students, teams must consider how to address potential artificial intelligence and machine learning biases that may be replicated and to ensure integrity around student data privacy, including students’ ability to have some control over and knowledge of how their data is shared. Any tool that requires students or prospective students to enter income data, residency status, and/or parent occupation may lead poverty-affected, first-generation, undocumented / Deferred Action for Childhood Arrivals (DACA), or non-English dominant students to feel cautious or excluded from recruitment and enrollment opportunities. Processes must be in place that demonstrate cultural sensitivity and possible alternatives to such requests.

USER BUY-IN & USAGE

Ultimately, the success of a technology tool often relies on an institution’s ability to ensure that the tool is used properly at scale. This level of adept user usage requires strong user buy-in, which is most reliably achieved through end user involvement in the planning and procurement process, robust training and support, key technology “champions,” a well-managed implementation, and eventually, evidence that the technology tool is truly helping to advance the student success and equity goals it is purported to support. Resources below can speak to how institutions can foster this buy-in and/or pivot to regain momentum amid challenged implementations.
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<td>Chamberlain, A.W., Newkirk-Kostila, E.</td>
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The Ada Center

The Ada Center helps higher education leaders navigate technology and business process decisions in an increasingly complex environment. We partner with organizations, state systems, and institution leaders on projects such as:

- Developing and executing a student success technology plan
- Practical research on critical technology topics
- Getting an IT project back on track
- Landscape analysis and future planning

The Ada Center’s mission is to help access-focused institutions use technology to strengthen success and equity goals. We also partner with organizations such as EDUCAUSE and the Advising Success Network to author resources such as this. To explore additional support resources, please visit theadacentre.org.

EDUCAUSE

EDUCAUSE is a higher education technology association and the largest community of information technology (IT) leaders and professionals committed to advancing higher education. Technology, IT roles, IT responsibilities, and higher education are dynamically changing. Formed in 1998, EDUCAUSE supports those who lead, manage, and use information technology to anticipate and adapt to these changes, advancing strategic IT decision-making at every level within higher education. EDUCAUSE is a global nonprofit organization whose members include U.S. and international higher education institutions, corporations, not-for-profit organizations, and K-12 institutions. With a community of more than 100,000 people at member organizations around the world, EDUCAUSE encourages diversity in perspective, opinion, and representation.

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Thank You!

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