



DRIVING TOWARD A DEGREE: THE EVOLUTION OF PLANNING AND ADVISING IN HIGHER EDUCATION

PART 1: THE SUPPLIER LANDSCAPE

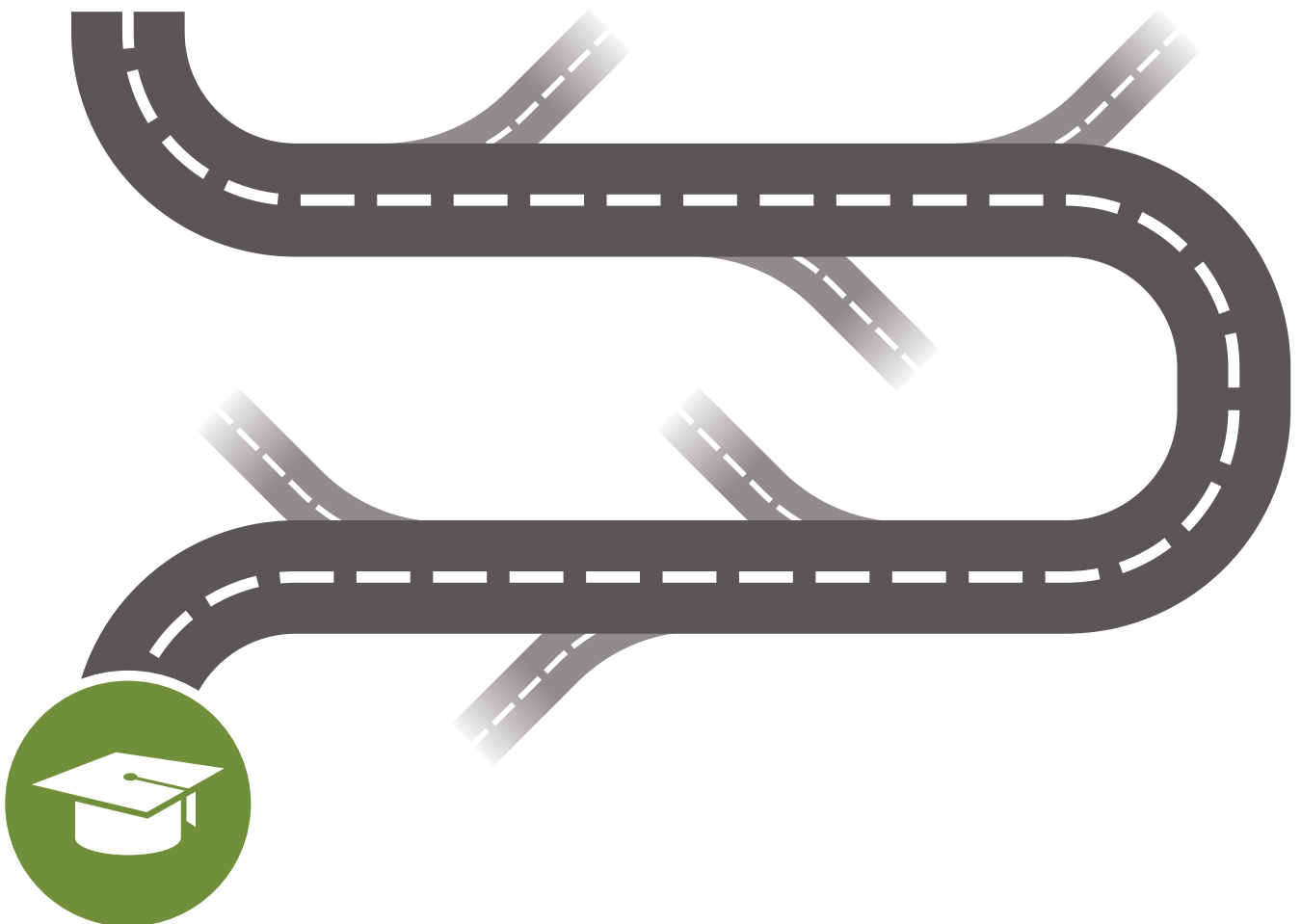
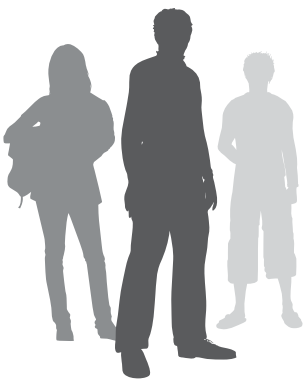


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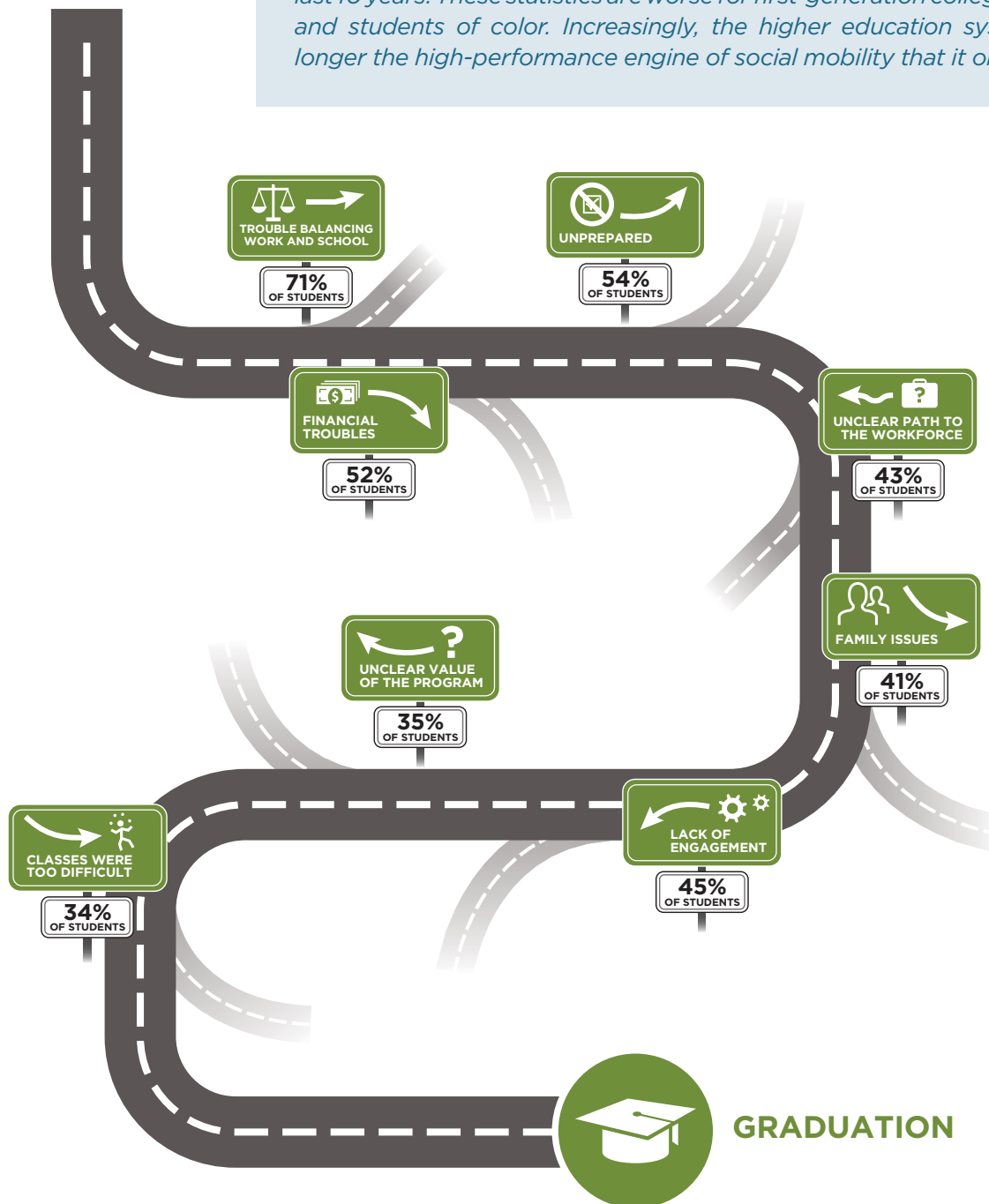
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INTRODUCTION



STUDENTS

On-time student graduation and student retention are major challenges facing the US higher education system. Only 59% of full-time students beginning college will earn a degree within six years.¹ At the community-college level, the picture is even bleaker. Fewer than 20% of students finish a two-year degree within three years, or a 10-month certificate program within 15 months.² US institutions spend 5% to 12% of their budgets on student services, which equates to over \$1 billion spent annually on planning and advising services for students.³ Meanwhile, on-time student graduation rates and freshman retention rates have not improved over the last 10 years. These statistics are worse for first-generation college students and students of color. Increasingly, the higher education system is no longer the high-performance engine of social mobility that it once was.



Source: "With Their Whole Lives Ahead of Them: Myths and Realities About Why So Many Students Fail to Finish College," Public Agenda

While politicians and policy experts are taking notice and pressing institutions to improve student retention and on-time graduation rates, relatively little attention is being paid to the evolution in how institutions support students with degree planning and advising. The student retention problem gained greater national attention when President Obama announced the nation's College Scorecard in an attempt to improve the transparency of student outcomes, and ultimately improve institutional productivity.⁴ The biggest driver of change, however, is states' adoption of performance-based funding for public higher education institutions. Thirty-four states have adopted programs that link public funding to various institutional performance measures, including on-time graduation rates and student retention rates, and another four states are planning to follow suit.⁵

While these structural reforms work to shift incentives, there are other factors forcing institutions to rethink their planning and advising services. For the first time in 10 years, college enrollments have declined for a second straight year. According to a recent survey conducted by KPMG, 85% of higher education leaders are concerned about maintaining current enrollment levels.⁶ Institutions can no longer rely on replacing lost students with new students; they must do a better job of serving the students they have.

In addition, the higher education system today is increasingly serving "post-traditional" students — older, working adults who are less equipped to navigate the college experience while juggling the demands of life outside school. These students typically need more proactive supports to ensure success.

The convergence of these factors is forcing institutions to rethink the transactional, fragmented system of planning and advising. Many institutions are hard at work transforming these departments and processes. For example, Florida Atlantic University is providing better services to part-time, adult students by literally meeting them where they are — in the campus parking garage.⁷ Unfortunately, most institutions are stuck in a reactive stance with limited resources and institutional contexts that inhibit up-front investment for the purpose of future gains.

EXTERNAL PRESSURES ARE FORCING INSTITUTIONAL LEADERS TO MAKE STUDENT SUCCESS AND RETENTION A STRATEGIC PRIORITY



*This two-part series, **Driving Toward a Degree: The Evolution of Planning and Advising in Higher Education**, will offer perspective and tools to help institutions make informed decisions toward transforming their planning and advising to improve overall student success and retention. Strategies are not one-size-fits-all and should differ depending on the context of the individual institution. Differences in student, faculty, and staff composition and institutional processes, as well as varying levels of funding and leadership support, make each institution unique in its retention needs and capabilities. In an environment where vendors' solutions are proliferating, it is critically important to establish both a strong institutional context and a foundation for the evolution of the vendor landscape.*

Part 1 of Driving Toward a Degree: The Evolution of Planning and Advising in Higher Education provides a picture of the current state of the planning and advising vendor landscape. More specifically, this paper addresses the following questions:

- *What does planning and advising look like at many institutions today?*
- *How should institutions evaluate suppliers in the planning and advising market?*
- *What does the vendor market for planning and advising services look like today?*
 - *Product Breadth: How many products exist across the spectrum of planning and advising services? To what extent are these products integrated with one another to improve workflow across the institution?*
 - *Product Sophistication: What is the current level of sophistication for individual product categories and for the market as a whole?*
 - *Market Reach: How large is the market for planning and advising products, including the number of product installations and the estimated market size?*
- *Where is the market for planning and advising services heading?*

The second paper in this series will highlight specific institutional challenges around planning and advising and seek to provide institutions with an implementation roadmap for a retention strategy. Part 2 will also demonstrate through examples how institutions can take practical steps toward improving on-time graduation rates and persistence rates.

Executive Summary: *A confluence of factors, including a shift to performance-based funding and declining student enrollment, has led to an increased focus on student retention and on-time graduation at postsecondary institutions. In response, over 100 vendors in the integrated planning and advising services market have introduced products aimed at improving student retention and graduation rates. These product offerings vary significantly in capability and maturity, but all aim to fix the inadequate model many institutions have in place, in which retention and advising efforts are disjointed and underserve the student. Our two-part series *Driving Toward a Degree: The Evolution of Planning and Advising in Higher Education* is intended to equip institutions with an understanding of this immature but quickly evolving vendor landscape. These papers also identify the gaps between the supply and demand sides of the market and, within the context of those realities, provide institutions with a guide for selecting and implementing a student success and retention strategy.*

¹ US Department of Education, *The Condition of Education 2014*, May 2014.

² Washington Post, "Even For-Profit Universities Are Better Than America's Terrible Community Colleges," January 2015, <http://www.washingtonpost.com/posteverything/wp/2015/01/13/even-for-profit-universities-are-better-than-americas-terrible-community-colleges>; National Center for Education Statistics, *Digest of Education Statistics*.

³ National Center for Education Statistics, IPEDS database, 2014.

⁴ Inside Higher Ed, "Obama's Ratings for Higher Ed," August 2013, <https://www.insidehighered.com/news/2013/08/22/president-obama-proposes-link-student-aid-new-ratings-colleges>.

⁵ National Conference of State Legislatures, "Performance-Based Funding for Higher Education," January 2015, <http://www.ncsl.org/research/education/performance-funding.aspx>.

⁶ KPMG, *2014 Higher Education Industry Outlook Survey*, http://www.kpmginfo.com/industryoutlooksveys/2014/pdfs/290256_Higher_Ed_Industry_Report_v13.pdf.

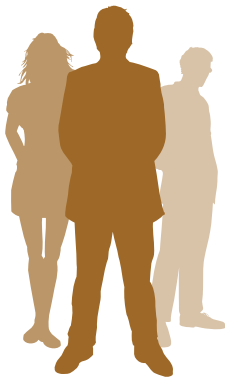
⁷ Inside Higher Ed, "Drive-up Advising," May 2015, <https://www.insidehighered.com/news/2015/05/19/florida-atlantic-u-offers-academic-advising-parking-garages>.

WHAT DOES PLANNING AND ADVISING LOOK LIKE AT MANY INSTITUTIONS TODAY?

The approach most institutions take to student planning and advising is often disjointed. The reasons why these processes are so difficult to align include lack of institutional attention and committed resources, a plethora of diverse stakeholders involved in the process with different needs and wants, information silos that are created by a lack of coordination or by data security issues, and complicated systems integration.

ADVISORS

"Why are my students dropping out? How can I better serve my students? Where can I go to find additional information about my students?"



Financial Aid counselors
Academic coaches
Freshman advisors
Faculty advisors
Career counselors

Advisors are stretched thin, sometimes carrying caseloads of thousands of students. As a result, they do not seek out students in need but depend on students to be proactive and schedule their own appointments. As one would expect, those students who make the effort to schedule and attend their appointments are the most motivated ones. These students are often the least at risk of not succeeding in an institutional setting. In general, students who run the highest risk of dropping out are already discouraged and disengaged and consequently fail to seek help from institutional resources. Thus, the current reactive system of advising tends to overlook the students most in need.

In preparation for a student meeting, an advisor may have to access five different student data systems to develop a better understanding of the student's background and educational profile, including grades, current course schedule, and demographics. The advisor still does not know the student's advising history, career plans, or other non-academic factors that may pose the greatest risk to the student's success. Rather than engaging with students holistically, most advisors are focused on executing a set of transactions: completing course registrations, assigning degree plans, or reviewing transcripts.

ADMINISTRATION AND INSTITUTIONAL LEADERS

"Why are my retention rates and graduation rates not improving? How are my advisors performing as a whole and on an individual basis?"



Retention Coordinator
Academic Provost
Director of IT
Director of Institutional Research
Director of Enrollment

Administrators and institutional leaders have limited visibility into advising activities. Instead, they see advising and success metrics that provide little insight into overall program effectiveness. These metrics might include the number of students scheduled or the ratio of students to advisors. Administrators and institutional leaders work within tight budgets and are forced to allocate resources based on limited information or in an environment where capital investments are reserved for physical plant or technology infrastructure rather than processes that more directly impact student-facing functions.

STUDENTS

"What should I study? When will I graduate? How can I get more financial aid? Who can I go to for questions about student life?"



Residential students
Part-time commuters
Online students
Adult learners

Students have questions about programs of study, degree requirements, transfer credits, career plans, financial aid, and health and nutrition before they come to campus, and they are unsure where they can go to have their questions answered. When students arrive on campus, they may be exposed to a “college success” or orientation course amid a barrage of other information and new experiences. If at-risk students are able to find student services, even scheduling an appointment may prove difficult. In addition, students become frustrated when they have to tell their story repeatedly to institutional support representatives, including advisors, coaches, and faculty, who are not connected to one another. Receiving conflicting advice and information, students run the risk of taking courses that do not count toward their major, costing them valuable time and money. Beyond areas of study, students are unaware of the various resources that exist on campus that can support them and help them to feel engaged in the campus community.

The current approach that many institutions take to student planning and advising leads to problems for students as they navigate their way toward graduation. Students are often forced to leave school because there is an issue with financial aid that is not addressed or identified ahead of time. Instead of working with the student and the financial aid office to address the issue, the system simply drops the student from his or her classes. Students drop out of school because they fail to see a viable path to an end goal (e.g., What classes do I need to take? When will I graduate? What are my career options after graduation?). Helping students to connect the dots between education and employment is critical to student success and is often overlooked in the student advising process.

To overcome these challenges, institutions are partnering with technology providers and services organizations and are engaging in communities of practice to redesign the advising experience so that it is more proactive, personalized, and holistic. While not a panacea, the vendors and their respective technologies support institutions to:

- Monitor student data in order to identify at-risk students and provide necessary interventions. Over time, this process enables advisors, faculty, administrators, and even students to better predict course failure or withdrawal so that interventions can occur in time.
- Connect students to resources and enable advisors and students to monitor progress and create personalized plans for learning and engagement.
- Break down communication barriers between departments and key stakeholders by establishing a single platform to share student data and information.
- Guide students to select efficient, relevant courses and programs of study that will lead to completion of a degree or credential.

The result of leveraging these support services is a more efficient planning and advising function that better serves those students who need the most support and ultimately increases overall student success and retention rates.

WHAT TYPES OF PRODUCTS ARE VENDORS OFFERING TO INSTITUTIONS TO SUPPORT PLANNING AND ADVISING?

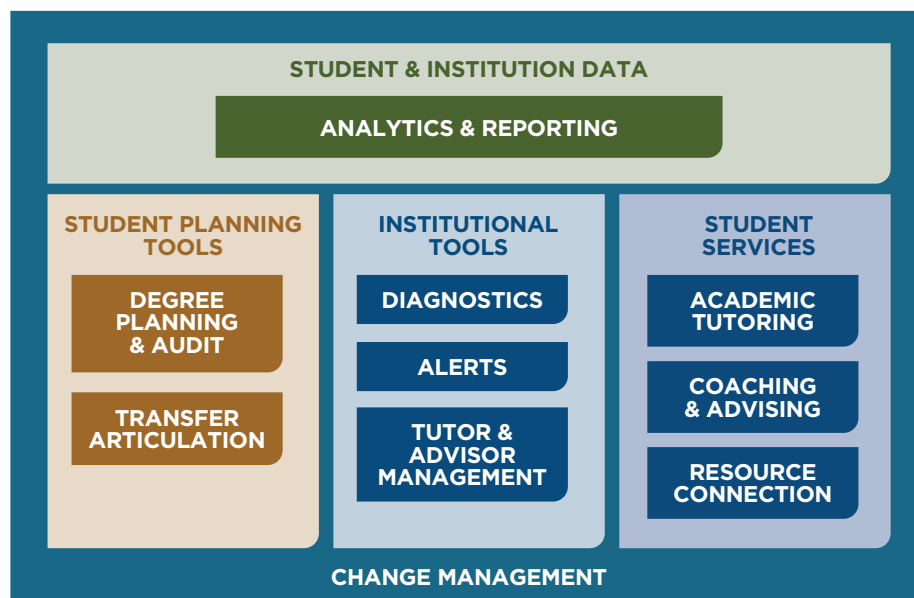
While vendor solutions sound appealing, the supply side of the planning and advising equation is as fragmented as the demand side. Tyton Partners identified more than 120 companies supporting institutions around student success and retention across nine distinct product categories (see page 12 for details). These products aim to pinpoint at-risk students, to connect students with resources, to engage students at a personal level, and to measure and report program performance to key stakeholders. In addition to these direct benefits, many products also enable improved communication across institutional silos. Of these 120 companies, roughly 50% are point solutions that offer one or two products designed to serve a specific area within the planning and advising process. Of the remaining companies, 40% offer three or four products. While solutions that aim to solve a piece of the puzzle are helpful to a certain extent, they also create a number of institutional challenges, including:

- Systems integration and frequent updates
- Management over multiple platforms
- Inconsistent collaboration among internal (and external) stakeholders

As a result, institutions are searching for solutions that help provide a holistic advising experience rather than perpetuate limited integration across categories.

Most vendors we spoke with recognize the challenges institutions face, and are working toward providing a more holistic solution across our nine-product framework through acquisitions of other companies and development of new products. While it is too early to conclude that the merger activity is creating a less fragmented market, it does portend more coordination in specific workflow areas captured in our product framework. For a list of recent mergers and acquisitions in the planning and advising space, see exhibit A in the appendix.

TODAY'S MARKET IS COMPOSED OF 9 DISTINCT PRODUCT CATEGORIES ACROSS 4 WORKFLOW AREAS SUPPORTING SUCCESS AND RETENTION*



* For a detailed description of the product categories and the vendors that participate across these categories, refer to exhibit B in the appendix.

HOW SHOULD INSTITUTIONS EVALUATE SUPPLIERS IN THE PLANNING AND ADVISING MARKET?

Tyton Partners analyzed the current supplier market in terms of product offering breadth, feature set sophistication, and client reach. Evaluating technology solely on the basis of feature sets, service, and price can perpetuate a best-in-class point solution approach. Our approach seeks to analyze the market from an *integrated* perspective.

- **Product breadth** assesses the number of products across the spectrum of planning and advising services.
- **Product sophistication** analyzes individual product capabilities and functionalities. It is important to note that simply because a product is more sophisticated does not necessarily mean it is a better fit for a particular institution and its specific needs.
- **Market reach** measures the level of penetration by each product category. (e.g., How many institutions are being supported by an outsourced tutoring services company?)

As we look across the vendor landscape, these three vectors are helpful, objective guides for determining how integration across categories is accelerating or stagnating. At the individual vendor level, these three vectors can assist institutions in identifying appropriate partners that can improve a piece of the planning and advising puzzle.

PRODUCT BREADTH

Currently, there is little integration between product categories serving the planning and advising space. There are no providers that offer a “complete solution” across all product categories, and those that offer three or more products do so primarily as a collection of separate point solutions.⁸

The chart on page 12 illustrates the density of products offered in the market today by supplier category. Currently, Alerts and Tutor & Advisor Management are the most populated product categories. Meanwhile, Diagnostics, Degree Planning & Audit, and Transfer Articulation are the most underrepresented categories.


In addition to these underserved categories, it is important to note that very few vendors today offer change management capabilities. Vendors are typically focused on implementation support and planning for their particular solution and, as a result, are not usually set up to help institutions manage change in related operational processes.


⁸For a complete list of vendors with a presence in three or more categories, refer to exhibit D in the appendix


NO SINGLE CATEGORY OF COMPANY IS OFFERING A COMPLETE RETENTION SOLUTION AT SCALE


37% of the “Pure Play” companies have analytics

		Pure Play	Enrollment Mgmt.	ERP / SIS / LMS	Tutoring & Advising	Student Engagement	LRM	Other
Institutional Tools	Analytics & Reporting	37%	53%	44%	23%	0%	25%	46%
	Diagnostics	10%	5%	19%	8%	0%	0%	15%
	Alerts	49%	68%	69%	15%	33%	63%	38%
	Tutor & Advisor Mgmt.	29%	58%	50%	8%	100%	38%	54%
Student Services	Academic Tutoring	24%	11%	6%	77%	0%	13%	8%
	Coaching & Advising	20%	21%	0%	46%	0%	38%	0%
	Resource Connection	29%	16%	6%	23%	56%	25%	8%
Student Planning Tools	Degree Planning & Audit	17%	21%	31%	8%	0%	50%	23%
	Transfer Articulation	5%	0%	6%	0%	0%	0%	23%

 **Heavy concentration**
50% - 100%

 **Medium concentration**
20% - 49%

 **Light concentration**
1% - 19%

 **No concentration**
0%

PRODUCT SOPHISTICATION




























Tyton Partners reviewed individual products from a feature-set perspective across the nine different product categories in order to measure the maturity level of each category. First, we separated products into three groups based on the sophistication of their feature sets, with 3.0 corresponding to the greatest number of advanced features.

We did not factor in price, efficacy, ease of integration, or customer support because these elements varied widely depending on the customer and the specific needs of the institution. Regarding price, we found a strong correlation between level of sophistication and cost, with more-advanced products commanding a generally higher price. It is important to note that products in higher feature set categories are not necessarily better at serving institutional or student needs; they simply claim to offer a greater number of advanced features. For a detailed view of advanced features, see appendix exhibits E-M.

We then divided product categories into three distinct buckets based on their level of maturity. It is important to recognize that even with the most established product categories, there are many products that miss the mark in terms of product features that institutions are looking for, resulting in few providers in the feature set 3.0 category.

- **Well-established products** have feature sets that are well defined and evolved. The markets for these products are typically commoditized to the point where purchasing decisions are made primarily based on price and ease of implementation. Product categories in this bucket include Tutor & Advisor Management, Academic Tutoring, and Diagnostics.
- **Emerging products** continue to evolve as providers add unique features and new players enter the market. Because products in this category are fairly differentiated from one vendor to the next, purchase decisions here are more complex, with decisions primarily based on feature set, ease of system integration, ease of implementation, and price. Product categories in this bucket include Alerts, Degree Planning & Audit, and Coaching & Advising.
- **Early-stage offerings** are rapidly evolving. New suppliers continue to enter the market with unique offerings. Purchase decisions in this category are based primarily on awareness and willingness to innovate or adopt a product with limited evidence of efficacy. Product categories in this bucket include Analytics & Reporting, Resource Connection, and Transfer Articulation.

PRODUCT SOPHISTICATION SUMMARY

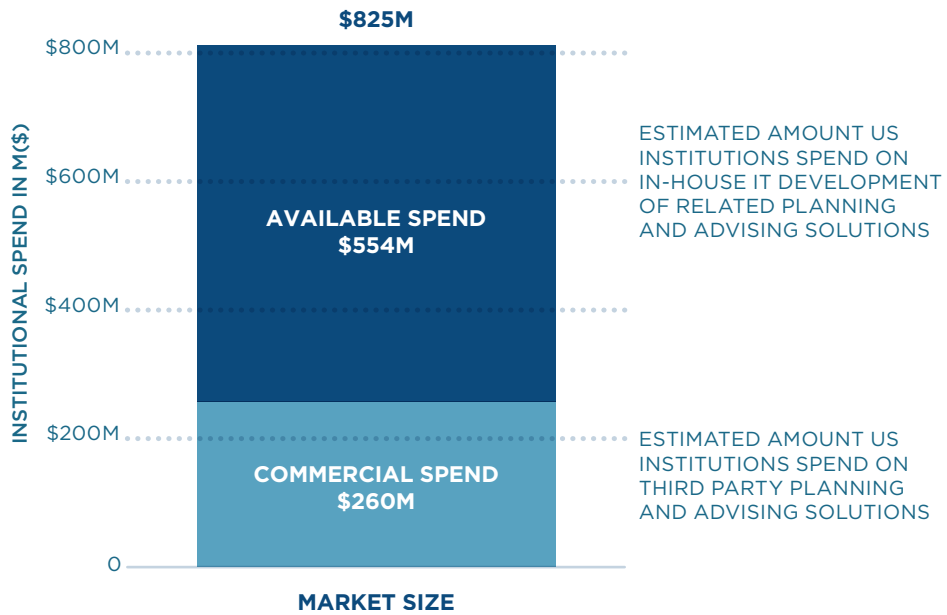
					most sophisticated	
Level of Maturity	Product Category	Estimated Number of Products	Feature Set 1.0	Feature Set 2.0	Feature Set 3.0	
Well Established	Tutor & Advisor Mgmt.	60	20% 	60% 	20% 	
	Academic Tutoring	30	45% 	30% 	25% 	
	Diagnostics	10	10% 	10% 	50% 	
Emerging	Alerts	60	55% 	30% 	15% 	
	Degree Planning & Audit	25	75% 	20% 	5% 	
	Coaching & Advising	20	40% 	40% 	20% 	
Early Stage	Analytics & Reporting	40	40% 	40% 	20% 	
	Resource Connection	30	55% 	40% 	5% 	
	Transfer Articulation	10	30% 	60% 	10% 	

See appendix exhibit E-M for detailed classifications by product category.

MARKET REACH

Estimating the total size of the planning and advising services market is difficult because of its fragmented state. Based on our calculation, we estimate the total market for planning and advising services is roughly \$825M. This number includes the amount institutions spend on in house development of related services (i.e. available spend) as well as the amount institutions spend on third party providers (i.e. commercial spend). Based on interviews with suppliers and information disclosed on company websites, Tyton Partners also estimated the number of product installations by company type. We estimate that there are a total of about 7,500 product installations in higher education institutions across the country. Assuming that institutions adopt, on average, three or four planning and advising products, then 55% to 66% of institutions have not adopted a solution.

TOTAL POTENTIAL MARKET SIZE OF THE STUDENT SUCCESS AND RETENTION INDUSTRY IS ESTIMATED AT ~\$825M

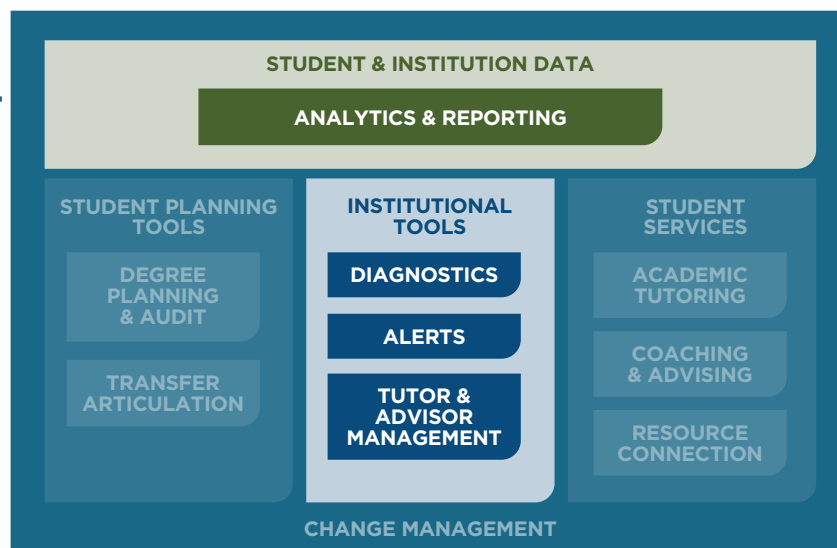


WHERE IS THE MARKET FOR PLANNING AND ADVISING SERVICES HEADING?

The average institution that uses planning and advising solutions works with three to four different vendors to string together the services necessary to meet its needs.⁹ This poses challenges to institutions such as coordinating different vendors and ensuring integration of systems that often require frequent software upgrades.

To combat these challenges, vendors are increasingly adding capabilities to their point solutions in order to extend their integrated offering. Here are a few examples where this evolution is taking place in the market today.

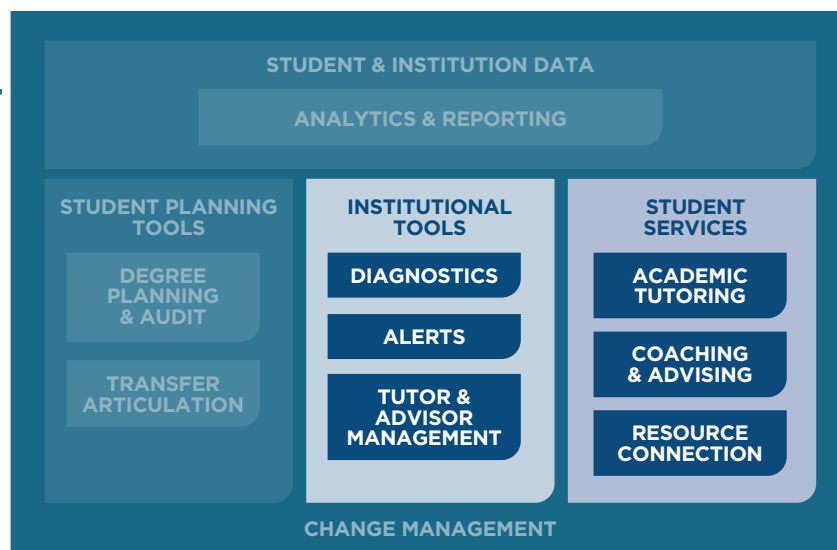
Integration	Market Example	Tyton Partners' Perspective
Analytics & Reporting vendors are partnering with or acquiring workflow offerings in the Institutional Tools category.	<ul style="list-style-type: none"> Education Advisory Board (EAB), a leader in higher education analytics and reporting, acquired GradesFirst, a leader in workflow management tools focused on student success. 	<ul style="list-style-type: none"> The acquisition was completed in February 2015, and currently the products are being sold separately.¹⁰ If EAB successfully merges the two offerings into one comprehensive solution, the result will enable institutions to lower their administrative burden and turn data-driven insight into action.



⁹ EDUCAUSE Center for Analysis and Research, *IPAS Implementation Handbook*, 2014.

¹⁰ GradesFirst, "The Advisory Board Company, Parent of EAB, Acquires GradesFirst," <http://gradesfirst.com/advisory-board-company-parent-eab-acquires-gradesfirst>.

Integration	Market Example	Tyton Partners' Perspective
<p>Student Services providers are adding built-in alerts, assessment features, and remedial learning opportunities that flag students who fall behind and that streamline the intervention process.</p>	<ul style="list-style-type: none"> Tutor.com, a personalized online tutoring company, added a “classroom connected ‘early alert’ data service” supported by predictive insights.¹¹ 	<ul style="list-style-type: none"> A common critique of early alerts from institutions is that they occur too far outside the learning process and therefore are too late. By imbedding alerts in the learning process, Tutor.com can potentially more quickly identify students that who are falling behind.
	<ul style="list-style-type: none"> Pearson’s Smarthinking, an education data and tutoring company, developed a program, NewStart, that imbeds online tutoring, advising, and a formative assessment and learning tool (MyLab) directly into the course process.¹² 	<ul style="list-style-type: none"> Smarthinking take this idea one step further and include four critical elements of learning and development in one online program that is built into the course, meaning it is required for all students. The program is designed for remedial education, but it provides a glimpse of what an integrated system might look like in the near future. The program was launched late in 2014, so impact has yet to be published.



¹¹ Tutor.com, “Tutor.com Achieves IMS Global Learning Interoperability Certification,” June 2014, <http://www.tutor.com/press/press-releases-2014/20140609>.

¹² Florida State College, “From Developmental Education to Gateway Courses and Beyond; Implementing Developmental Education Reform at Florida State College at Jacksonville,” October 2014.

One other example that falls outside our product framework but is worth noting is Hobsons's acquisition of Starfish Retention Solutions. Hobsons, which is the leader in college and career planning tools for K-12, as well as a leading provider of enrollment management solutions for higher education, acquired Starfish, a leader in workflow planning tools for student success and planning in higher education.¹³ This combination provides access to longitudinal student data that could potentially enable Hobsons to identify key variables during a learner's K-12 journey that determine the likelihood of postsecondary student success. The acquisition was completed in February 2015.

In addition to supplier integrations, communities of practice between suppliers and institutions are emerging as a valuable platform to share information and best practices on institutional change management. This integration and information sharing will result in greater impact on student success and retention and ultimately create more widespread adoption across institutions. Civitas Learning Space is an online community that allows members to share information and effective practices on how to use analytics to improve student success. Other examples of communities of practice within the planning and advising space include:

- Predictive Analytics Reporting Framework (PAR)
- National Academic Advising Association (NACADA)
- Consortium for Student Retention Data Exchange (CSRDE) at the University of Oklahoma

¹³ "Hobsons Acquires Starfish Retention Solutions," <http://starfish.hobsons.com/>.

GOING FORWARD: STEPS TO ACHIEVE INTEGRATION

In order for the market to achieve this level of integration at scale, we believe change is needed from both institutions and suppliers.

Institutions can take several steps to maximize their relationship with planning and advising vendors. Specifically, we believe institutions would benefit if they are able to take the following actions:

- Map out key criteria needed from a vendor before selecting a partner (e.g., system integration, timeline to implement, ongoing costs, and customer service).
- Find a champion in each department who can drive change management initiatives.
- Provide additional training resources to support advisors, administrators, and stakeholders.
- Coordinate planning and advising efforts across the institution. This will enable vendors to understand what else is running in parallel.
- Recognize that vendors will not be able to solve all problems related to planning and advising functions. The market is still immature, and vendors can only support, not drive, the process.

While it will take several years to achieve this level of integration at scale, we have found examples of institutions that are strategically tackling these problems and working with vendors to effect significant change.

Suppliers need to extend their current offerings to better meet the needs of institutions. Specifically, suppliers must:

- Strengthen their ability to link data platforms and integrate across systems. A lack of integration leads to distrust and a lack of stakeholder buy-in across the institution, and stakeholder commitment is absolutely critical to program success.
- Support institutions to execute the change process. Rethinking how the institution will measure, track, and deliver services after the technology solution is implemented is imperative and is often overlooked at the start of the process.
- Provide best-practice examples that institutions can leverage for their own implementation.

The next paper will provide insight into key processes that institutions should have in place before embarking on an integrated planning and advising platform. It will also highlight key success factors and provide benchmark examples of institutions that have implemented programs that have improved student success and retention.

ACKNOWLEDGMENTS

The papers in this series owe much to the support and engagement of a diverse group of individuals and organizations.

We would like to thank the 40+ suppliers and institutions that we interviewed for this paper. We greatly appreciate the input of all our interviewees and survey respondents, as well as their overall contribution to advancing the field's knowledge of student success and retention in postsecondary education.

Thanks also to the Postsecondary Success team at the Bill and Melinda Gates Foundation for their support of this work. In addition, the teams at Communications Strategy Group and Can of Creative were incredibly patient and understanding as we moved from ideas to drafts to professional execution of these two white papers.

Finally, any errors, omissions, or inconsistencies across these two publications are the responsibility of Tyton Partners alone.

BIOGRAPHIES

GATES BRYANT, *Partner*

Gates Bryant is a general manager and strategy consultant with a successful track record of bridging the gap between innovative strategy and practical execution. He joined Tyton Partners as a partner in 2011.

MATT CLAISE, *Principal*

Matt Claise is a strategy consultant and market research professional with over six years of consulting experience working with a diverse array of companies, governments, and non-profit organizations focused on mission-critical issues within strategy, operations, and human capital. He joined Tyton Partners as a principal in 2014.

KARISHMA ROOPCHAND, *Associate*

Karishma Roopchand is a strategy consultant and market research professional with five years of experience. She joined Tyton Partners as an associate in September 2014 and is currently an Education Pioneers Analyst Fellow. In this role, she provides strategy and research support to organizations in the education sector.

ABOUT TYTON PARTNERS

Tyton Partners, formerly Education Growth Advisors, is the leading provider of investment banking and strategy consulting services to the global knowledge sector. Built on the tenets of insight, connectivity, and tenacity, Tyton Partners leverages in-depth market knowledge and perspective to help organizations pursue solutions that have lasting impact.

As an evolved advisory services firm, Tyton Partners offers a unique spectrum of services that supports companies, organizations, and investors as they navigate the complexities of the education, media, and information markets. Unlike most firms, Tyton Partners understands the intricacies and nuances of these markets and plays an integral role in shaping the efforts that drive change within them. The firm's expertise is predicated on its principals' years of experience working across market segments – including the preK-12, postsecondary, corporate training, and lifelong learning sectors – and with a diverse array of organizations, from emergent and established private and publicly traded companies, to non-profit organizations, institutions, and foundations, to private equity and venture capital firms and other investors.

Tyton Partners leverages its deep transactional and advisory experience and its extensive global network to make its clients' aspirations a reality and catalyze innovation in the global knowledge sector.

For more information about Tyton Partners, visit tytonpartners.com or follow us at [@tytonpartners](https://twitter.com/tytonpartners).

APPENDIX

EXHIBIT A: RECENT MERGERS AND ACQUISITIONS TRANSACTIONS IN THE PLANNING AND ADVISING SPACE

Company	Target	Date	Press Release
Ellucian	Helix	2015	http://www.ellucian.com/News/Ellucian-Draws-More-Than-8-800-Attendees-at-Ellucian-Live-2015-in-New-Orleans/
Hobsons	Starfish	2015	http://starfish.hobsons.com/
Blackboard	MyEdu	2014	http://www.blackboard.com/news-and-events/Press-Releases.aspx?releaseid=122712
Chegg	InstaEDU	2014	http://investor.chegg.com/press-releases/press-release-details/2014/Chegg-Agrees-to-Acquire-a-Leading-Online-Tutoring-Network-InstaEDU/default.aspx
Education Advisory Board	Royall & Company	2014	http://www.prnewswire.com/news-releases/the-advisory-board-company-to-acquire-royall--company-extending-unique-and-powerful-business-model-further-into-higher-education-300007960.html
Education Advisory Board	GradesFirst	2014	http://www.eab.com/Advisory-Board-acquires-GradesFirst
Graduation Alliance	ConnectEDU	2014	https://www.edsurge.com/n/2014-06-26-graduation-alliance-acquires-contracts-assets-from-connectedu
InsideTrack	Logrado	2014	http://www.insidetrack.com/2014/04/21/insidetrack-acquires-logrado-expands-multi-channel-coaching-capabilities/
Kuali	rSmart	2014	https://www.kuali.org/news/2014/10/14/kualico-acquires-rsmart-saas-business-and-expands-team-drive-development-and
Noel-Levitz	RuffaloCODY	2014	https://www.noellevitz.com/about-noel-levitz/press-releases/ruffalocody-announces-merger-with-noel-levitz
Plattform	Seelio	2014	http://www.plattform.com/en/blog/plattform-announces-acquisition-career-preparation-company-seelio
Datamark	Helix	2013	http://www.helixeducation.com/news/datamark-acquires-technology-assets-and-support-infrastructure-from-altius-education/
Desire2Learn	Degree Compass	2013	https://www.edsurge.com/n/2013-01-24-desire2learn-acquires-degree-compass
Desire2Learn	Knowillage	2013	http://techcrunch.com/2013/09/09/desire2learn-acquires-adaptive-learning-and-analytics-startup-knowillage/
E4 Health	Student Resource Services	2013	http://pevc.dowjones.com/Article?an=DJFLBO0020131025e9apmtfn&ReturnUrl=http%3a%2f%2fpevc.dowjones.com%2fArticle%3fan%3dDJFLBO0020131025e9apmtfn
ConnectEDU	Epsilon	2012	http://www.prnewswire.com/news-releases/connectedu-and-epsilon-join-forces-to-increase-student-engagement-persistence-and-success-176753661.html

Higher One	Campus Labs	2012	http://campustechnology.com/articles/2012/08/09/higher-one-adds-campus-labs.aspx
Macmillan New Venture	Education Benchmarking	2012	http://www.prweb.com/releases/2012/5/prweb9530932.htm
Macmillan New Venture	SkyFactor (formerly EBI Map Works)	2012	http://www.macmillannewventures.com/press-type/press-releases/
Hobsons	Intelliworks	2011	http://www.hobsons.com/league-tables-are-king-say-international-students/hobsons-acquires-intelliworks/
Hobsons	Agilegrad	2011	http://www.hobsons.com/education-trends/news-room/media-releases/hobsons-acquires-agilegrad-to-promote-student-success/
Pearson	TutorVista.com	2011	http://www.livemint.com/Companies/LkipTPnsANIBwtrLBJOnHJ/Pearson-acquires-whole-of-TutorVista.html
Pearson	Smarthinking	2011	http://www.signalhill.com/transactions/detail/smarthinking-acquired-by-tutorvista-and-pearson

EXHIBIT B: PRODUCT CATEGORIES AND DESCRIPTIONS

Product Category	Workflow Category	Description
Analytics & Reporting	Student & Institution Data	<ul style="list-style-type: none"> • Systems that collect student data and provide institutional reporting • Data elements can range from attendance, GPA, and student demographics to predictive analytics engines that power early alerts • Dashboards can track outcomes and report results
Degree Planning & Audit	Student Planning Tools	<ul style="list-style-type: none"> • Tools that maintain institutional degree requirements and allow tracking and auditing of progress toward completion • Primary function is to support course planning and creation of roadmaps to graduation • Features may include indicators that show when a student veers off course, embedded course registration functions, and course recommendations
Transfer Articulation	Student Planning Tools	<ul style="list-style-type: none"> • Platforms that manage course and degree equivalency between institutions to help students maximize credit transfer and minimize time to degree completion • Tools give students access to degree requirements, articulation agreements, and transfer planning and support

Diagnosics	Institutional Tools	<ul style="list-style-type: none"> • Assessments that measure a student’s risk profile, often by evaluating the student’s non-cognitive skill set or personality traits (e.g., student’s motivation level, parents’ education level) • Diagnostic assessments can take place prior to a student enrolling or during the academic year
Alerts	Institutional Tools	<ul style="list-style-type: none"> • Platforms that flag at-risk students • Alerts can be data-driven (e.g., through an LMS), manual (e.g., faculty-generated), or both • Alerts transmit relevant information to the appropriate parties for intervention
Tutor & Advisor Management	Institutional Tools	<ul style="list-style-type: none"> • Tools that support student intervention processes by facilitating the allocation of tutoring and advising resources • Products support scheduling, communication between stakeholders, case management, and matching of students to specific tutors and advisors
Academic Tutoring	Student Services	<ul style="list-style-type: none"> • Products and services that provide students with academic support, including online tutoring services
Coaching & Advising	Student Services	<ul style="list-style-type: none"> • Personalized student support services that provide non-academic advising (e.g., counseling in relationships, financial aid, career planning, mental health, and work study)
Resource Connection	Student Services	<ul style="list-style-type: none"> • Platforms or tools that connect students to resources and are designed to increase student engagement • May take the form of social networks, campus forums, individualized webpages, text messages, or emails

EXHIBIT C: SUPPLIER SEGMENTS

Type	Description	Supplier Angle	Estimated Number of Companies	Examples
Pure Play	Companies that exist primarily to improve student success and retention	Understands retention challenges and provides holistic solutions	40	Starfish, GradesFirst, Pharos
Enrollment Management	Companies that focus on the enrollment management process, which controls entry and is increasingly responsible for retention at institutions	Understands students at the point of entry; collects data to predict future success	20	Hobsons, Noel-Levitz, Greenwood Hall, Plattform
Enterprise Resource Planning / Student Information Systems / Learning Management Systems	Data systems that collect student data; often seen as the most important data systems on campus	Collects student data throughout the student life cycle	15	Blackboard, Jenzabar, Ellucian, Oracle
Tutoring & Advising	Companies that offer online tutoring and advising services	Provides leverage to resource-constrained institutions	20	Smarthinking, InsideTrack, Tutor.com, Link-Systems
Student Engagement	Companies that connect students to resources on campus as well as to other students	Offers a low-cost approach to streamlining operations and improving student engagement	10	Redrock Software Corporation, AccuTrack, OrgSync
Learner Relationship Management (LRM)	Companies that collect data and engage students through student learning plans with goal setting, learning communities, and online courses	Puts students at the center of institutional resources	10	Fidelis, LoudCloud, Chalk & Wire
Other	Companies that offer services such as assessments, credentialing, and change management	Provides point solutions that support pieces of the student success and retention process	20	Nuventive, Parchment, Armatures

EXHIBIT D: COMPANIES THAT OFFER THREE OR MORE PRODUCTS ACROSS THE PLANNING AND ADVISING PRODUCT FRAMEWORK

ESTABLISHED COMPANIES		EMERGING COMPANIES	
Company	Website	Company	Website
Blackboard Analytics	http://www.blackboard.com/platforms/analytics/products/blackboard-analytics-for-learn.aspx	Aviso Coaching	http://avisocoaching.com/
Brightspace by D2L	http://www.brightspace.com/solutions/higher-education/advanced-analytics/	Blue Canary	http://bluecanarydata.com/lighthouse/
Campus Labs	http://www.campuslabs.com/products/beacon/	CARS (Collegiate Admissions and Retention Services)	http://collegiatersvp.com/index.php/solutions/
Campus Management Corp	http://www.campusmanagement.com/EN-US/Products/CampusNexus-Student/Pages/default.aspx	Copley Retention Systems	http://copleysystems.com/platform/
Civitas Learning	http://www.civitaslearning.com/about/	csMentor	http://www.csmentor.com/
CollegeSource	http://www.collegesource.com/products/product-overview/	EMAS Pro	http://www.emaspro.com/higher-education-crm/student-retention-software/
EAB Student Success Collaborative / GradesFirst	http://gradesfirst.com/how-it-works/early-alert/	Fidelis	http://www.fideliseducation.com/#pro-overview-anchor
Ellucian / Helix	http://www.ellucian.com/Software/Student-Success/	GetSet	https://getset.com
Enrollment Rx	http://www.enrollmentrx.com/solutions/retention-rx/	GPS LifePlan	http://www.gpslifeplan.org/personal/
Hobsons / Starfish	http://www.hobsons.com/education-solutions/products/student-success-solutions/	GradGuru	http://gradguru.weebly.com/for-community-colleges.html
InsideTrack	http://www.insidetrack.com/solutions/	Kipin Hall	http://kipinhall.com/students/
Jenzabar	http://www.jenzabar.com/higher-ed-solutions/jenzabar-strategic-enrollment/retention	Nuventive	http://www.nuventive.com/products/tracdat/
Noel-Levitz	https://www.noellevitz.com/student-retention-solutions/retention-management-system-plus	Persistence Plus	http://www.persistenceplusnetwork.com/our-services
Oracle / PeopleSoft	http://www.oracle.com/us/products/applications/peoplesoft-enterprise/campus-solutions/overview/index.html	Pharos Resources	http://pharosresources.com/solutions/pharos-360/

Pearson Smarthinking	http://www.smarthinking.com/solutions/higher-education/	ProRetention	http://www.proretention.com/success-crm.php
Skyfactor (formerly EBI Map Works)	http://www.skyfactor.com/student-retention-how-it-works/	Student Success Plan	http://www.studentsuccessplan.org/features
Tutor.com	http://www.tutor.com/higher-education/diagnostic-data	Uversity (formerly Inigral)	http://www.uversity.com/solutions/schools-app/
Workday	http://www.workday.com/Documents/pdf/datasheets/datasheet-workday-student.pdf		

EXHIBIT E: ANALYTICS & REPORTING

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Collects basic indicators (GPA) from standard systems (LMS, SIS)</i>	<i>Collects holistic set of student indicators. Easy to generate and share reports</i>	<i>Collects holistic set of indicators. Reports are customizable and easy to share</i>
<ul style="list-style-type: none"> Collects student indicators from one source: LMS, SIS, other system Data collection based solely on systems (e.g., does not allow for manual inputs) Data collection is not customizable for different institutions Interoperability with other student data systems is limited (i.e., relies on LMS or SIS) 	<ul style="list-style-type: none"> Collects student indicators from multiple systems (LMS, SIS, other systems) System allows for manual inputs Customizable to institution Full interoperability with other student data systems Easy to generate and share reports across cohorts 	<ul style="list-style-type: none"> Collects student data from multiple sources (systems, faculty opinions, surveys, etc.) Indicators collected can be customized for each institution Allows for benchmarking of data against peer institutions Fully interoperable with student data systems (LMS, SIS, other systems) Generates easy-to-read reports

EXHIBIT F: DIAGNOSTICS

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Factors in only static indicators (e.g., parents' education level)</i>	<i>Includes both dynamic and static indicators</i>	<i>Factors in dynamic and static indicators and predictive models</i>
<ul style="list-style-type: none"> Factors in static indicators (parents' education level, high school record, standardized test scores) Diagnostics assessed at a single point in time—such as at the beginning of college Provides a risk factor for each student, but does not provide an action plan for student success Provides institutional-level reporting, but not student-facing results 	<ul style="list-style-type: none"> Factors in static and dynamic indicators (e.g., family economics, mental health of student) Diagnostics assessed at multiple points throughout student life cycle Uses a wide range of non-cognitive factors (e.g., academic engagement, campus engagement, resiliency) Includes personality data points Provides action plan for student success 	<ul style="list-style-type: none"> Factors in static and dynamic indicators (e.g., family economics, mental health of student) Measures a combination of static and dynamic indicators Diagnostics based on predictive model of student success Provides multiple risk factors for each student, including projected academic performance, and retention score, as well as detailed action plans for success Provides institutional report as well as student-facing recommendations

EXHIBIT G: ALERTS

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Alerts generated late (> 8 weeks) based on standard metrics (e.g., GPA)</i>	<i>Alerts generated with multiple data points and manual input. Customizable to institution</i>	<i>Alerts generated ad hoc with manual input; predictive. Prioritizes results</i>
<ul style="list-style-type: none"> • Pulls from single source of data (e.g., LMS) • Alerts occur late in student life cycle • Indicators constant across institutions • Alerts not customizable based on user groups or selection • Alerts do not guide intervention strategy • System does not facilitate communication between stakeholders 	<ul style="list-style-type: none"> • Alerts based on data from multiple sources (LMS, SIS, other systems) • Alerts occur early in semester • Alerts are customizable by institution • Allows for student-created alerts • Alerts guide intervention strategies, including who should intervene • Ability to generate automated alerts • Generates student alert reporting 	<ul style="list-style-type: none"> • Predictive analytics identify at-risk students • Alerts based on institutional priorities • Students / faculty able to generate alerts • System ranks students on a priority scale (supports interventions) • Multiple student messaging functionality (text, on-screen, etc.) • Facilitates communication between faculty and advisors • Comprehensive reporting capabilities

EXHIBIT H: TUTOR & ADVISOR MANAGEMENT

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Facilitates basic outreach, but lacks scheduling or case management</i>	<i>Automates student communication; facilitates intervention management</i>	<i>Manages and tracks intervention to completion. Mobile communication</i>
<ul style="list-style-type: none"> • Connects students to the appropriate staff resource, but no capabilities to manage intervention after initial outreach • Minimal automated student outreach • Does not facilitate communication among various players in student intervention process • Does not allow for communication to student through multiple channels (text, email, etc.) • No role-based access for information sharing among stakeholders 	<ul style="list-style-type: none"> • Student outreach is automated • Scheduling tools for students and administrators • Gives students preemptive behavioral nudges • Offers scheduling tools and catalogs student interactions between staff, faculty, advisor, tutor, etc. 	<ul style="list-style-type: none"> • Appointment scheduling and calendar integration • Appointment reminders to students • Mobile communication • Automated student outreach • Connects students with appropriate advisor or tutor • Offers case management tools and tracks interventions • Tracks and records notes, communications, and appointments • Role-based access and seamless information sharing • Actionable reporting

EXHIBIT I: ACADEMIC TUTORING

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>In-person; limited sessions and subjects available</i>	<i>Online or by phone; scheduled sessions; limit</i>	<i>Online 24/7 access; informed and linked to courses; no limit</i>
<ul style="list-style-type: none"> • In-person • One-to-many • Non-interactive (question submission and answer format) • Limited number of sessions available for each student • Limited window of available sessions (e.g., Mon–Wed 9–2) • Limited number of subjects available (e.g., math) 	<ul style="list-style-type: none"> • Report cards for students • Scheduled sessions • Limited number of sessions available per student • Limited number of subjects available (e.g., math and science) • Dashboards to inform administrators at institutional level (# of sessions, hours, etc.) 	<ul style="list-style-type: none"> • Online • 24/7 instant access • Interactive (e.g., whiteboards) • One-to-one / personalized • Access to wide variety of subjects • Customized to the institution and specific courses • System communicates with other key stakeholders (e.g., mentors) • Report cards for students and administrators • Linked to alert system

EXHIBIT J: COACHING & ADVISING

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Reactive counselor communication; not informed by student profile</i>	<i>Online or by phone; mobile messaging; by appointment</i>	<i>Online or by phone; mobile messaging; informed by student profile; 24/7</i>
<ul style="list-style-type: none"> • Available only by appointment, in person • Limited schedule and diversity of counselors • Limited forms of communication • Lack of complete student issue offerings (e.g., counselors not trained in marriage counseling) • Not connected to alert system or other student data systems • Reactive communication 	<ul style="list-style-type: none"> • Online and in person • Limited availability of counselors • Several forms of communication • Communicates with other advisors and counselors • Supports private or group conversations • Not connected to alert system or other student data platforms • Proactive communication from counselors 	<ul style="list-style-type: none"> • Online and in person • On demand, available 24/7 • Multiple forms of communication (mobile, phone) • Holistic student coverage approach (from entry to career) • Can be linked to alert system and other student data systems • Proactive communication from counselors

EXHIBIT K: RESOURCE CONNECTION

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Pages that direct students to school resources</i>	<i>Personalized pages that direct students to school resources</i>	<i>Interactive networks connect students to personalized help</i>
<ul style="list-style-type: none"> • Offers students reports with links to resources either on campus or elsewhere • No follow-up to ensure that student connected with resource • Resource connection is not personalized 	<ul style="list-style-type: none"> • Connects students to engagement opportunities, but does not offer personalized help • Provides easy access to campus resources through a centralized platform 	<ul style="list-style-type: none"> • Interactive resource connection • Social networks or forums that connect students to other students or advisors who can provide personalized help • Allows students to crowdsource help at their school • Matches students to peers, based on interests or experiences • Creates reports on student involvement/engagement

EXHIBIT L: DEGREE PLANNING & AUDIT

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Planning tools show courses that meet degree requirements</i>	<i>What-if scenario planning. Linked to registration. Provides recommendations</i>	<i>Robust suite of planning tools. Linked to registration. Shows course demand data</i>
<ul style="list-style-type: none"> • Limited student planning tools that do not break out degree requirements • Unfriendly user interface • Designed only for students or advisors; does not facilitate communication between the two • Does not adapt for non-traditional students such as part-time students, etc. • No mechanism for alerting advisors of off-track students • Stand-alone product, not linked to SIS or other student data systems • Not linked to course registration system 	<ul style="list-style-type: none"> • Web-based, self-service access to planning tools with point-and-click degree requirements for students to track progress toward degrees • Friendly user interface; easy-to-read software for counselors and students • Degree plans adaptable based on multiple programs, etc. • Offers progress report updates and push notifications • Linked to intervention tools and decision-making materials • Linked to course registration system • Students can compare performance to peers 	<ul style="list-style-type: none"> • Robust suite of planning tools; allows modeling of what-if degree scenarios, creation of multiple plans, recommendation engine, and automated course plans • Easy-to-use / easy-to-read • Allows role-based student and advisor access and facilitates and records actions between the two • Degree plans highly customizable • Proactively alerts when a student veers off track • Fully integratable • Linked to course registration • Tracks logic of decisions made

EXHIBIT M: TRANSFER ARTICULATION

		Degree of Sophistication
Feature Set 1.0	Feature Set 2.0	Feature Set 3.0
<i>Informational; does not allow students to build or execute a transfer plan</i>	<i>Regional network with limited student self-service transfer tools</i>	<i>National network; allows students to search schools, map transfer, send transcripts</i>
<ul style="list-style-type: none"> • Designed only for the student to get information on transferring • Provides links to common transfer resources and additional transfer tips • Manage credentials • Initiate withdrawals and transfers 	<ul style="list-style-type: none"> • Regional network of institutions • Designed for the student and the institution • Recruiting • Specific school search • Manage credentials • Send and receive transcripts 	<ul style="list-style-type: none"> • National network of institutions • Friendly user interface • Manage credentials and send • Self-service tools allow students to create own transfer plan • Matches preferences (size, cost) to a list of potential schools • Specific school search with ability to contact schools • Access transfer scholarships and other common resources • Request information from schools on admissions, visits, etc.

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