Implementing Academic Analytics and the Impact to Academic Advising

By

Abigail D. Coffin
Ed. D., University of Kansas, 2018
M.A., University of Kansas, 2009
B.A., MidAmerica Nazarene University, 2003

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Chair: Dr. Susan Twombly

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Dr. Lisa Wolf-Wendel

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Dr. Eugene Parker

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Dr. Marlesa Roney

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Dr. Holly Storkel

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The dissertation committee for Abigail D. Coffin certifies that this is the approved version of the following dissertation:

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Abstract

Institutions are facing pressure to improve retention and graduation rates. Because of the positive impact that academic advising can have on these metrics and the growing use of academic analytics in higher education, spending on Integrated Planning and Advising Services (IPAS) is higher than ever before. IPAS tools promise to streamline advising efforts, alert advisors of students at risk of dropping out, nudge students to engage in and out of the classroom, predict which students will be successful in rigorous courses and majors, and ultimately, improve retention rates. With vendors rapidly entering and expanding the IPAS market, institutions are encouraged to get in the game, or risk losing their share of the market.

For this study, comparative case study methods were used to understand why two public, 4-year, doctoral degree-granting institutions implemented the Education Advisory Board's Student Success Management System (EAB SSMS), the steps followed during implementation, the impact implementation of such a system plays on advising work, and the perception of impact to any existing advising approach or philosophy.

The study concludes that strategic planning that included increasing student success metrics led to the implementation of the SSMS. Creating buy-in, communication with advising leaders and front-line advisors, and making decisions about how the use of the tool would be required or encouraged affected individual campus' implementations. Each institution demonstrated that gaps in advising tool functionality was addressed by the EAB SSMS and that advisors with less experience and those who demonstrated more flexibility in approach and with technology were most successful in adjusting to the implementation of the tool. The institutions differed in the approach that was in place for academic advising, and use of the tool did not make any substantive change to the advising approach in place.

Four additional conclusions are offered from the study: (1) Despite a proliferation of advising tools, gaps in function still exist, (2) Resistance to change impacts implementation, even if the outcome is desired, (3) Centralization plays a significant role in the success of the tool implementation and (4) Absence of a developmental advising approach may lead to more prescriptive advising actions. The findings of this study can assist administrators in setting expectations for a successful implementation of an IPAS tool and guide advising directors on impacts to expect through an implementation process.

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"Be the B.E.S.T. – better every single time"

--Jerry McPeak, my mentor, my friend

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Chapter 1: Introduction

The focus on student retention and college completion is greater now than at any other point in the history of higher education due to the emphasis on declining budgets, continued accountability from external constituencies, and the rising cost of higher education (Arnold, 2010; Eduventures, 2014; Tyson, 2014; U. S. Department of Education, 2015). The retention rate (percentage of students returning the following fall) for first-time, full-time degree seeking students at 4-year institutions in 2013 was 80 percent, but at open admission institutions, it is only 62% (National Center for Education Statistics, 2016). More than 40% of students will drop out of college before completing a degree (Bill & Melinda Gates Foundation, 2016). The gap between white students and students from minority ethnic and racial groups is even more alarming with only 21% of Hispanic students and 30% of black students earning their degree (Lumina Foundation, 2017). Only 13% of first-generation students will earn a 4-year degree (Stephens, Brannon, Markus, & Nelson, 2015). In response to these statistics, the Association of Public and Land-grant Universities announced a new project with 100 public institutions to make improvements (Fain, 2018). It seems there is a growing sense of urgency to find solutions to these concerns.

The direct impact of academic advising on college retention and graduation is not well established, but advising has been shown to be one primary practice connected to retention gains (Cuseo, 2003; Drake, 2011; Habley & McClanahan, 2004; Pascarella & Terenzini, 2005). These practices include advising interventions with selected student populations, increased advising staff, the integration of advising with first-year programs, combining academic advising with career and life planning, and coaching and advising students in academic distress (Drake, 2011; Habley & McClanahan, 2004). Academic advisors are in a position to serve as a resource for

students and provide a positive connection to the institution (Council for the Advancement of Standards in Higher Education, 2015). It is believed that academic advising provides an effective retention strategy for students most at-risk for dropping out (Swecker, Fifolt, & Searby, 2013).

Academic advising on the majority of large, public institutions is primarily conducted by a professional staff advising model (Self, 2013). Typically, these models provide academic advising through individual advising appointments and are focused on course selection, major and career exploration, and academic success. These staff members are hired for the purpose of providing advising services for primarily undergraduate students, although advising does not require specific academic training as an entrance to the field. The National Academic Advising Association (NACADA) cites the use of developmental advising as the gold standard in professional staff academic advising models (Drake, Jordan, & Miller, 2013). Developmental advising is a process that not only supports students' personal and vocational decisions, but one that also "facilitates the student's rational processes, environmental and interpersonal interactions, behavioral awareness and problem solving, decision making, and evaluation skills" (Crookston, 1972, p. 12). Through utilizing developmental advising practices, advisors can develop strong relationships with students to provide the best possible assistance in their academic journey.

As the number of high school graduates heading to college shrinks (Straumsheim, 2017) and external pressures for higher education institutions to improve performance increases (Beckwith, 2016) colleges are showing a growing interest in software that promises to improve retention and completion rates (Tyton Partners, 2016). Improvements in academic advising, including the use of tools to streamline efforts, ensure accurate and timely advice, and

proactively reaching students before they struggle has captured the attention of institutional decision-makers (Campbell, DeBlois, & Oblinger, 2007). According to the Education Advisory Board's (EAB) *Next Generation Advising* report (2012), complex curriculum and systems lead to sub-optimal academic advising. Additionally, some believe advisors focus too much on personal experiences and their individual preferences rather than student data (Attis, Enyeart, Vlajic, Miller, & Tisdale, 2012). The EAB report suggests historical, institutional student information systems data can inform current students' course selection and major decisions, but is rarely available to advisors or built into systems (Attis et al., 2012). The *Next Generation Advising* report highlights individual institutional successes in using advising technology including developing degree map milestone programs to provide more prescriptive guidance to students, using data to determine true minimum grades in milestone courses, and the creation of a software tool to provide students with data-based course guidance. This technology is generally referred to as academic analytics, or predictive analytics, and the two terms are used interchangeably. As these technologies are becoming a reality in the academic advising arena, they have the capability to change the way academic advising is delivered and the approach that academic advisors use. EAB's Student Success Management System (SSMS) is one such program. This tool leverages 10 years of institutional historical data to assign a risk factor to individual students and embeds this risk analysis into an academic advising tool that allows for shared advising notes, targeted email campaigns, online scheduling for students, and a mobile interface for students that provides behavioral nudges (Education Advisory Board, 2016).

Purpose of the Study

The purpose of this study was to understand how and why two University Innovation Alliance (UIA) institutions implemented the EAB's SSMS and the ways in which advisors at

these institutions perceive advising was affected. The UIA is a collaboration of eleven of the largest public research universities in the United States, established in 2013 specifically to identify and scale across its members new and promising approaches to graduating more students from colleges, particularly low-income and under-served students (University Innovation Alliance, 2016). This study helped to explain the ways in which the academic advisors and advising administrators at these two large, public, doctoral degree granting, research universities perceive academic advising was affected, their perception of any impact to advising approach or philosophy, if one exists on their campus, and how the implementation process of the SSMS affected their work.

Problem Statement

Pattern recognition and predictive analytics are commonly used in consumer settings – for example by Amazon and Netflix to generate recommendations for shoppers (Wagner & Ice, 2012). Although these analytics are not yet used as broadly in a higher education setting, academic analytics is a rapidly growing field (Gardner, 2018). Academic analytics was developed from a desire to implement data-driven decision making to support student success; these tools can assist students with selecting courses or predict when students might be at a point of increased risk (Baepler & Murdoch, 2010; Campbell et al., 2007; Kraft-Terry & Kau, 2016; Wagner & Ice, 2012). Academic analytics tools deployed in the advising sector of higher education are referred to as Integrated Planning and Advising Services (IPAS). IPAS analyzes the student data collected from a variety of sources and puts this data in the hands of those who have the best ability to intervene with students – advisors, student service staff and faculty (Brooks, 2014). In recent years, hundreds of U.S. universities and colleges have committed to adopting IPAS platforms. In the time period from 2013-2016, vendors that market these

platforms have signed agreements with more than 250 post-secondary intuitions that enroll an estimated three-million American college students annually (Education Advisory Board, 2016). These platforms deliver personalized information about students to academic advisors for the purpose of informing their work and student interaction. These platforms have been touted as a game-changer for their impact and breadth to advising capabilities (Attis et al., 2012; Brooks, 2014). These platforms though, rely primarily on professional advisors to carry out student interventions. The field of IPAS has segmented into several different planning and student services categories, but my study focused only on institutional planning, student planning tools and advisor tool (Tyton Partners, 2017a, 2017b).

One such vendor in the IPAS space, Education Advisory Board (EAB), offers a suite of tools that are a part of the institutional planning, student planning, and advisor tools segments. EAB's services and tools combine technology, consulting, and best practice to assist institutions to leverage data and analytics so they can improve student outcomes (Education Advisory Board, 2016). EAB cites a 4-8% increase in persistence and retention with the adoption of their platform by utilizing a predictive model to identify at-risk students, barriers to degree completion, and create a coordinated network to manage student risk from the point of identification to resolution (Education Advisory Board, 2016). There is a sense in the arena of academic analytics and big data in general that using analytics to optimize the learning environment is no longer an option, but now an absolute necessity (Macfadyen, Dawson, Pardo, & Gasevic, 2014). It is believed that an institutional competitor that fails to develop the capabilities of big data will be left behind, and those that secure access to the data necessary to create value will reap the most benefit from it (Manyika et al., 2011).

The University Innovation Alliance (UIA) is a coalition of eleven public research institutions with a goal to provide increased access to high quality college degrees for a diverse body of students (University Innovation Alliance, 2016). The institutions making up the UIA cover the geographic, economic and social diversity of the United States and include Arizona State University, University of California Riverside, University of Central Florida, Georgia State University, Iowa State University, The University of Kansas, Michigan State University, Purdue University, The Ohio State University, Oregon State University, and The University of Texas at Austin. All institutions have implemented IPAS tools in some capacity, utilizing the services of vendors such as EAB, Civitas Learning, eAdvisor, or use of homegrown systems.

This study focused on two institutions that implemented an IPAS tool from the Education Advisory Board, called the Student Success Management System (SSMS). This tool has undergone rapid development since its creation, including significant changes during the data collection phases of this study. Initially it was developed as an institutional planning tool. In this phase, it was used to embed analytics into a dashboard for administrators to use in analyzing trends and making data-driven decisions about the deployment of their institution's resources. In the second phase, EAB acquired an early alert platform from a smaller vendor, which allowed them to provide student profile information, a repository for advising information (including advising notes and online appointment scheduling) and integrated alerts of risky student behaviors for just-in-time interventions. In the current version of the system, EAB has added a student-focused product that uses notifications to encourage students to use resources such as academic support offices, career services, academic advisors and financial aid offices. This application currently includes student onboarding information (such as check lists of items to complete ahead of new student orientation), milestone guides and pushes real-time information

such as account balances, enrollment hold information or reminders to register for classes. This type of integrated, high-touch platforms are an emerging part of higher education institutional strategy (Straumsheim, 2017). The hallmarks of a highly integrated IPAS tool such as the EAB SSMS are: it is an enterprise level systems that *link*s users across campus rather than contributing to the siloed nature of institutions; it is a system that consolidates single point solutions (such as early alert, appointment scheduling, academic analytics, etc.) to create greater value; and it helps to support the work of more progressive institutions leveraging key performance indicators beyond the focus on first year retention (Venit, 2017). Straumsheim (2017), while interviewing Mark Milliron, co-founder and chief learning office of Civitas Learning says, "If we do it right, it's probably going to enable a golden age of learning. This should not just be helping at-risk students, it should be helping all students" (p. 5).

These tools are designed to assist advisors in proactively reaching out to students (based on milestones and academic indicators) to perform just in time interventions. In a report published in 2016 from investment banking and strategy consulting firm Tyton Partners, 44 percent of more than 900 colleges surveyed indicated their spending over the previous three years on academic planning and advising software had gone up, with very few reporting declines (Tyton Partners, 2016).

This study focuses primarily on professional staff academic advisors rather than faculty advisors. Professional staff academic advising emerged as a role in the 1970's. Prior to this, faculty provided the limited formal guidance needed in program and course decisions due to the highly structured environment and limited course selection for students (Habley, Bloom, & Robbins, 2012; Kuhn & Padak, 2008). As the curricula complexity increased, and the Carnegie Commission on Higher Education recommended an emphasis be placed on academic advising,

institutions began to use staff members to meet advising needs (Cook, 2009). In 1972, two articles were published that would become the cornerstones of the academic advising profession. One called for a professional, trained, dedicated academic advisor and this role would begin to take shape at campuses nationwide and the other called for specific steps an academic advisor should perform (O'Banion, 1994; Rooney, 1994). Finally, in 1979, the National Academic Advising Association (NACADA) was established and began to provide professional development for academic advisors in all categories (NACADA, 2016). Since these early days, developmental advising has shaped the training, professional development and work of academic advisors as the ideal standard. Developmental advising practices are those focused on understanding the motivations, values and skills of the student and the collaborative relationship developed between advisor and student to help the student determine how to achieve their goals (Drake et al., 2013). Although the field of advising has introduced new approaches, developmental academic advising continues to be respected as the most comprehensive and fundamental approach (Gordon & Habley, 2000; Grites & Gordon, 2009; Habley et al., 2012). Prescriptive advising practices, advocated by many IPAS systems, can contradict the norms of developmental advising in that prescriptive advising is often where the advisor provides an answer to the student's questions and the relationship is built on the knowledge of the advisor. On the other end of the spectrum, developmental advising often includes major exploration, long-range career and life planning in addition to course selection. The relationship in the latter is built on the advisor and student learning together, and is focused on the growth of the student through the process of advising (Grites & Gordon, 2009).

While developmental advising seems to be the standard of the field, the rising use of IPAS tools seems to support prescriptive advising. IPAS tools group students by incoming and

current academic performance variables and relies on the use of streamlined interventions for these groups of students. Yet, developmental advising is often prefaced as relationship based and utilizes an individualized approach. In fact, the professional organization for academic advising, the National Academic Advising Association (NACADA), has created a Statement of Core Values of Academic Advising. These core values indicate that advising is an educational process that should help students develop a realistic self-perception, help students understand information to make well-informed decisions, and that advisors should seek to gain trust from the students they work with and honor the expectations students have for academic advising (NACADA, 2005). It seems that using IPAS tools that predict the performance and risk of a student and recommend prescribed actions on the part of the advisor may represent a sharp change in the role and function of an academic advisor from that envisioned by these core values. But investment in these types of data systems are expected to continue or increase by most institutions (Education Advisory Board, 2017; EDUCAUSE Learning Initiative, 2014; Tyton Partners, 2016).

While IPAS technologies can help students plan their course of study, alert advisors and faculty when students are at-risk of falling off track, and help institutions address how they share information (Karp, 2015), academic advising literature indicates that developmental practice is the preferred approach (Drake et al., 2013; Grites, 1977, 1979, 2013; Winston, Miller, Ender, & Grites, 1984). This creates a potential problem in practice as this technology is implemented at institutions as academic advisors are expected to utilize the technology, but may practice an advising philosophy that is incongruent with the technology. Charlie Nutt, Executive Director of NACADA cautions that while systems that can create alerts when students run into difficulty are positive, there still exists a need for someone to talk to students about how to improve. “That

can't be programmed. The student-advisor relationship is important and you're never going to have that with a machine" (Nutt, 2016, p. 1).

Research Question

Little is known about how the use of academic analytics and adoption of IPAS tools have affected the work of academic advisors. Each IPAS system cites case study examples of retention success on individual campuses, yet an individual campus will not know for sure how it will work for them until they implement the system. Additionally, the success of the system is largely dependent on those who use it daily, academic advisors (Arnold, 2010; EDUCAUSE Learning Initiative, 2014). As this is work carried out by academic advisors, it is important to understand how their role is impacted. This study was guided by the following research questions:

1. What led to the implementation of the EAB SSMS and what steps did the institution follow to ensure a successful implementation?
2. How did the implementation process of the EAB SSMS impact academic advisors' and administrators' work?
3. How has implementation of the EAB SSMS affected advising approach/philosophy?

Significance of the Study

This study is important because the findings can be utilized to recommend the SSMS to campuses looking to integrate data informed decision making into their advising practice, or can be used to prevent those same institutions from investing in a technology that will not be worthwhile. Technology solutions can only be as successful as the people relied upon to implement them. Employee turnover at higher education institutions is quite low, while president and top administrative position turnover tends to be significantly higher (Cohen &

March, 1991). Top administrators are those typically responsible for making the decision to implement new IPAS tools. Understanding resistance to change, or a specific technology change in academic advising, is useful to administrators of institutions making planning and resource decisions. Institutions are paying hundreds of thousands of dollars to vendors to implement and maintain these tools and incurring an additional average 1.4 FTE of information technology related staff and 3 FTE of non-information technology related staff for the long-term upkeep of the tools (Brooks, 2014). As such, understanding how these tools effect institutions is critical.

Additionally, this study is crucial for advising directors working with training, professional development and setting expectations for advisors starting in advising to better understand the field of academic advising today. Current journal articles, references, and advising manuals often refer to technology in advising as simply engaging students in an online capacity, or finding ways to connect with students who have enrolled in an online class, but understanding technology as it relates to the work of advising and the daily responsibilities of advising goes further. This study helps to broaden the understanding of technology within the role of academic advising and sets expectations for the type of practice that some advisors may be asked to meet on campuses leveraging IPAS technology. Broadening this understanding can be used on a local advising training level, in graduate coursework, and can be utilized in professional organizations such as the National Academic Advising Association.

There is a lack of empirical evidence regarding how IPAS tools have affected academic advising and advising approach. Currently there are a small number of quantitative studies citing the effectiveness of these tools (Denley, 2014; Milliron, Malcom, & Kil, 2014), and one qualitative study on students' attitudes towards IPAS (Kalamkarian & Karp, 2015), but there

have been no quantitative or qualitative studies related to the impact of these tools to academic advising.

Key Concepts and Definitions

Before reviewing the literature related to this study, it is important to clarify the key terms used throughout this dissertation. Terms have been organized into two categories: Technology Terminology and Academic Advising Terminology. Technology Terminology refers to the terms used to describe the emerging use of data, analytics, and technology in the academic advising area of higher education. Academic Advising Terminology refers to the terms related to curricular advising for undergraduate students at higher education institutions.

Technology Terminology

Academic analytics – the practice of mining large institutional data sets to use with statistical techniques and predictive modeling to produce intelligence to be used for administrative decision making.

Education Advisory Board (EAB) – A consulting group and technology vendor that offers research area focused forums for higher education institution members and connects best practices to technology solutions in the areas of enrollment management, student success, and growth and academic operations.

Integrated planning and advising services (IPAS) – "Institutional capabilities to create shared ownership for educational progress by providing students, faculty, and staff with holistic information and services that contribute to the completion of a degree" (Brooks, 2014, p. 3). Data employed by IPAS tools to facilitate improvements in student success are drawn from centralized sources including student information systems, enterprise resource planning systems and learning management systems.

Student Success Management System (SSMS) – An IPAS tool developed by the Education Advisory Board with institutional planning, advisor tool and student facing mobile app components.

University Innovation Alliance (UIA) – A coalition of 11 public research institutions with a goal to provide increased access to high quality college degrees for a diverse body of students.

Academic Advising Terminology

Developmental advising – advising practices focused on the understanding of the motivations, values and skills of the student and the collaborative relationship developed between advisor and student to help the student determine how to achieve their goals.

National Academic Advising Association (NACADA) – a global association for the development and dissemination of innovative theory, research, and practice of academic advising in higher education.

Prescriptive advising – advising practices in which the student relies on the expertise of the academic advisor and the relationship is based only on the student's need for this expertise.

Proactive advising – advising practices focused on the advisor establishing early contact with the student, providing students with critical information before they anticipate or ask for it, and using this information and the students goals, skills, and talents to develop a holistic relationship between advisor and student.

Professional staff advising - an academic advising model that employs staff members to meet the advising needs of students in a full-time capacity without the use of faculty to help students determine course selection, major choice, and navigating institutional policies.

Chapter 2: Review of the Literature

Colleges and universities are increasingly driven by, rated by, and funded on the basis of student success and completion (EDUCAUSE Learning Initiative, 2014). Leveraging data to improve upon institution's student success and completion measures has the potential to positively impact these measures. Research indicates that most institutions expect to continue or increase their investments in data systems to improve these measures in the coming years (Beckwith, 2016; EDUCAUSE Learning Initiative, 2014; Wagner & Ice, 2012). In this literature review, I will provide a brief history of academic advising and the role of professional advisors. Additionally, I will provide an understanding of the cornerstones of developmental and prescriptive advising, which serves as the conceptual framework. I will also help to explain how the developmental approach has shaped the field of advising. I will then provide an analysis of integrated planning and advising services, academic analytics and their role in academic advising. I will explain the current focus on the achievement gap within higher education and the initiatives behind it, particularly those that impact academic advising. Finally, I will explain how resistance to change can play an impact in the success of implementing technology in advising.

Academic Advising

History. Although it is beyond the scope of this review to provide a comprehensive analysis of academic advising, it is important to better understand the establishment and history of the professional academic advising role to set the context for any impact the use of predictive analytics may bring. The history of academic advising can be broken into three primary eras. The first, from the founding of colonial colleges until the 1870s was a period in which students took the same courses and faculty provided both teaching and discipline for the academy. With a

highly structured environment, there was little need for guidance related to course selection (Habley et al., 2012; Kuhn & Padak, 2008). Beginning in the 1870s with the introduction of the elective system, the need for this guidance emerged (Frost, 2000) and from this period until the 1970s, advising as a role started to develop (Kuhn & Padak, 2008). During this timeframe, advising was typically executed by a faculty member and limited to formal guidance in program and course decisions (Frost, 2000; Habley et al., 2012; Kuhn & Padak, 2008). The breadth and complexity of the curricula increased, and in 1972, the Carnegie Commission on Higher Education recommended an emphasis be placed on advising as an important aspect of higher education (Cook, 2009). In that same year, two independent articles by Crookston (1972) and O'Banion (1972) utilized student development theory as the foundational base for academic advising (Cook, 2009). These two pieces of research are still used as a framework for advising practices today. In 1979, the National Academic Advising Association (NACADA) was established with 429 charter members. In this same year, Walsh (1979) called for a general redefinition of academic advising, calling for one that would be truly developmental and one where advisors should assist student growth.

Professional academic advising. The *2011 NACADA National Survey* confirms that full-time professional advisors and faculty do the majority of advising on college campuses today. While small and private institutions rely more heavily on faculty advisors, at large, public institutions, the majority of advising is done by professional advisors (Self, 2013). Professional advising positions require advisors to hold either a bachelors or masters degree, and have a median starting salary of $36,000 (NACADA, 2011). According to the most recent NACADA membership survey, most academic advisors range from 30-39 years old and have 3-6 years of experience in the field (NACADA, 2011). Professional academic advisors spend the majority of

their day meeting with students to address academic curriculum requirements, questions related to institution policies and procedures, and more general student development and success programming and outreach. Institutions are increasingly using professional advisors to meet the daily needs of students (Habley & McClanahan, 2004) and as such, this study focuses on the role of professional academic advisors rather than advising delivered by faculty members.

Impact. Quantifying the exact impact of academic advising has proved challenging in the years since the role was established in higher education. Many pieces of research converge to try to determine this impact. The quality of interaction between student and a concerned individual on a college campus, often through academic advising, has been found to be a key contributor to retention (Habley & McClanahan, 2004). Students are more likely to thrive, persist and complete degrees in an environment that provides clear and consistent information about expectations and requirements (Tinto, 1975, 2007). Academic advisors have the opportunity to assist students with interpreting institutional expectations and helping to make these clear to students in more practical terms. Academic advising can help students to shape their learning experiences which may encourage the achievement of their educational, career, and larger life goals (Hunter & White, 2004). Quality academic advising can help to promote student engagement by serving as a point of connection between student behavior and institutionally controlled conditions (Kuh, 2006) and any effort toward student retention should recognize that academic advising is vital to student success (Nutt, 2003). Despite the fact that academic advising is connected to some foundational theories of student development and success, there is still a lack of research pointing to the true impact of academic advising.

There are very few studies that demonstrate a direct link between academic advising and student retention (Seidman, 1991; Vowell, Farren, & McGlone, 1990). There are more studies

that find a link to retention when advising is paired with other interventions such as academic contracts, goal setting, freshman year experiences and group support (Abelman & Molina, 2001; Austin, Cherney, Crowner, & Hill, 1997; Hudesman, Avramides, Loveday, Waber, & Wendell, 1993; Kirk-Kuwaye & Nishida, 2001; Lopez, Yanez, Clayton, & Thompson, 1988; Morehead & Johnson, 1964; Novels & Ender, 1988; Steele, Kennedy, & Gordon, 1993). Other studies indicate that academic advising influences retention indirectly due to affecting other outcomes like study skills, GPA performance, academic integration, institutional commitment, satisfaction, self-efficacy, and study skills (Braxton, Duster, & Pascarella, 1988; Kuh, 2008; Metzner, 1989; Young-Jones, Burt, Dixon, & Hawthorne, 2013). Habley, Bloom and Robbins (2012) argue that "there is ample room for scholarly inquiry into the effectiveness and outcomes of academic advising efforts" (p. 291). Despite this gap in empirical evidence to support the impact of academic advising, survey data since the 1980s demonstrates that institutional administrators have identified improvements in academic advising as a major strategy to increase student retention (Habley, Valiga, McClanahan, & Burkum, 2010).

A report prepared by the Education Advisory Board (EAB) on student-centered advising cites that because academic advising on many campuses is not held responsible for or designed to be held responsible for student success, measuring its impact is inherently problematic (Education Advisory Board, 2014). This report demonstrates that the ownership and accountability of student success is often either shared among faculty, staff, and leadership, or there is delegated responsibility over student success to a central retention office (Education Advisory Board, 2014). EAB's Academic Affairs forum argues that despite the fact that advisors do not teach or assign grades, they are those best positioned to be held responsible for student outcomes. Shifting the emphasis of advising from basic transactions towards activities

that impact retention and timely completion is a large pursuit (Education Advisory Board, 2014). These gaps help to better explain the continual interest in improving upon and investing in academic advising programs and the deployment of IPAS tools in the academic advising space.

Despite the fact that the impact of academic advising as a retention strategy is not well documented, it remains a part of the conversation on how to better help students to succeed (Attis et al., 2012). At most mid-large size institutions, the ratio of professional advisors to students ratio is 600:1, double the size recommended by the National Academic Advising Association (Nutt, 2003). At this ratio, advising appointments are more likely to provide only 5-30 minutes per student per semester and are likely to only allow for quick, transactional advising interactions with little room for relationship development, goal setting, and proactive outreach and monitoring by the advisor (Attis et al., 2012; Tyton Partners, 2015a). Meeting the NACADA recommended ratios that would allow for multiple meetings per semester, on-demand assistance, time for career and goal planning, and developing rapport with students would cost between $1-2 million at mid and large sized institutions (Attis et al., 2012). It becomes clear that more cost effective strategies are needed.

Academic advising approach – developmental and prescriptive. The term developmental advising, utilized extensively in this literature review, has been defined as a "systematic process based on a close student-advisor relationship intended to aid students in achieving educational, career, and personal goals through the utilization of the full range resources" (Drake et al., 2013, p. 13). The research presented by O'Banion (1972) and Crookston (1972) introduced the concept of developmental advising to higher education. O'Banion defines a process of advising and outlines five dimensions that advisors should cover in their work with students: exploration of life goals, exploration of vocational goals, program choice, course

choice and scheduling courses (O'Banion, 1994). Higher education can be viewed as an opportunity in which the student plans to achieve a self-fulfilling life and not until these dimensions are fully explored should a major or program be chosen (O'Banion, 1994). O'Banion places the responsibility of exploration on the institution and says that counselors or advisors should be provided for knowledge about the institutional and program policies and also for student development, counseling, career exploration and decision-making. These advisors should foster an environment where all students, regardless of identity, interest or academic ability, feel appreciated and supported (O'Banion, 1994).

Crookston (1972) uses student development theory to argue that advising helps students to develop skills to problem solve and make decisions through teaching. He relates the traditional style of advising, referred to as prescriptive advising, to that of a doctor-patient relationship. This traditional view of advising says that the relationship is based on authority where the student (the patient) comes to the advisor (the doctor) seeking advice for an ailment, and the doctor prescribes advice. If the student follows the advice, the problem will be solved (Crookston, 1994). Advisors generally believe that carrying out the advice is the student's responsibility, while students view going to an advisor as going to an authority figure with a problem and getting an answer. The student views the decision as the advisor's responsibility, so if things don't turn out well, the blame can be placed on the advisor. Crookston outlines the concept of a developmental advising approach, in which the student and advisor work together to review options and make decisions. In this case, the advisor and student are learning together, and from one another (Crookston, 1994). The developmental relationship values the relationship between advisor and student, and the set of developmental tasks that each engage in to result in learning by both parties. These include reaching an agreement on who will take initiative, who

will take responsibility, who will supply knowledge and skill and how they will be obtained and applied (Crookston, 1994). In the many facets of a student an academic advisor relationship, one can differentiate between a prescriptive approach and a developmental approach.

Although prescriptive advising is not only based on data, prescriptive advisors are more likely to consider a student's previous record and make predictions based on that record, and are more likely to assume that students will need incentives or directives to be motivated (Crookston, 1994). Prescriptive advisors may assume that motivation is connected to interest in earning a high grade or earning their degree in order to achieve a particular income level. Prescriptive advisors are likely to believe that students are immature and need close supervision, and this leads to closely following students, such as the monitoring and tracking components of many IPAS tools (Crookston, 1994). Additionally, it is more likely that prescriptive advisors feel that their job is complete once the advice has been given; students must take the lead to execute advice and advance the relationship in any way. Finally, prescriptive advising calls for control over the relationship. This can be carried out as requiring approval signatures to enroll, drop, make changes, or withdraw from coursework. In the prescriptive relationship, the relationship itself is built on respect for authority, academic hierarchy, and knowledge and status, yet there is low trust in the relationship itself. There is less openness and sharing, and the relationship is more likely to be guarded and formal (Crookston, 1994). From this description, it seems that prescriptive advising encourages that the most direct path to a degree is best.

Developmental advisors are more likely to look to the potential of a student than to look to past records of a student. Records and tests are considered as one indication, but many potential areas for growth are yet to be discovered. Developmental advisors believe that students can find satisfaction in the accomplishment of work itself, and the accomplishment of a goal,

especially one set for themselves (Crookston, 1994). Similarly, developmental advisors are less likely to assume that motivation must be tied to a course, degree or money, and more likely to understand that students are often motivated by personal growth, self-fulfillment and goal accomplishment. Developmental advisors view students as growing, maturing, responsible and more capable of self-direction each day. Developmental advisors are likely to shift responsibility to students to problem-solve and make decisions. In a developmental approach of advising, either the advisor or the student might initiate contact or tasks, and advisors are likely to trust students to make decisions. This is likely to mean that systems do not require formal approval except for the more bureaucratic of requirements. The developmental relationship is built on nature of the task, agreement on the terms of the relationship, openness, trust, problem-solving, and decision-making (Crookston, 1994).

A number of studies indicate that students are more satisfied with developmental advising practices (Alexitch, 1997; Broadbridge, 1996) and prefer advising and advisor characteristics that reflect developmental advising (Fielstein, 1989; Herndon, Kaiser, & Creamer, 1996; Winston & Sandor, 1984). However, one study of first year students concluded that first-year students prefer prescriptive advising practices (J. S. Smith, 2002).

Field shaped by developmental advising. Developmental advising has a relatively long history in academic advising, and the concept remains fundamental to how many advisors approach their work (Drake et al., 2013; Grites, 2013). The basic principles of developmental advising remain present today: developmental advising is not a theory, but rather a strategy; developmental advising is holistic in nature; developmental nature is based on student growth; and developmental advising is a shared activity (Drake et al., 2013). The key difference between developmental advising and other approaches is that the developmental academic advisor *always*

sees the advising experience and relationship as an opportunity to teach. More than three decades ago, developmental advising was signaled as a primary way to help create a unifying student experience especially in the first year and to connect students to meaningful resources and programs (Walsh, 1979). In the years after the Crookston and O'Banion articles, professional advisors embraced an advising practice that was more student focused on active learning within the advising setting (Drake et al., 2013). These pieces are still cited as cornerstones in NACADA's training for academic advisors today (NACADA, 2016). While developmental advising is well established, some advising leaders worry that it is not well connected to practice, especially for institutions that have low advising resources and high advising caseloads (Education Advisory Board, 2017; Tyton Partners, 2016). As this study focuses on the experiences of professional staff academic advisors, it is expected that the advisor participants will have an understanding of developmental advising and may use it in practice.

Proactive advising. Proactive advising (formerly called intrusive advising) is considered a sub-category of academic advising originating with Glennen's (1975) work to blend advising and counseling into one discipline. Glennen aimed to provide students with information before it was requested and to simultaneously develop a relationship with the student (Glennen, 1975). In this study, training for advising and counseling were provided to volunteer advisors and they were taught to scan for any signs of potential distress for students. These advisors successfully connected with students and through focus on interests, abilities, and the goals of students (hallmarks of developmental advising), the retention levels of the test group was raised (Glennen, 1975). Proactive advising places the responsibility of initial contact and establishing the relationship with the advisor rather than the student and involves intentional outreach and intervention to increase student motivation, intensive advising to increase the probability of

student success, helping students to understand all of their options, and reaching out to students before a barrier or negative situation arises (Glennen, 1975; Glennen & Baxley, 1985; Varney, 2012). Proactive advising is often recommended particularly for at-risk students (Glennen & Baxley, 1985; Schwebel, Walburn, Jacobsen, Jerrolds, & Klyce, 2008; Vander Schee, 2007). Proactive advising may allow advisors to anticipate student challenges and help students to prevent these challenges from halting their success.

Proactive advising can include monitoring grades and attendance, monitoring enrollments and degree progress, and watching for risky behaviors such as dropping classes, enrolling below full-time status, or accruing multiple holds preventing future enrollment. While proactive advising has been shown to contribute to the success of students, especially for those at risk (Abelman & Molina, 2002; DiMaria, 2006; Hunter & White, 2004), and it utilizes the positive qualities of both prescriptive and developmental advising (Varney, 2012), it is clear that it requires advisor capacity to be most effective. The Educational Advisory Board refers to proactive advising as the preferred advising approach for impacting student success metrics and to best assist students stay on track (Attis et al., 2012).

Academic Analytics

Colleges and universities have faced growing pressure to increase the rates of student retention and college completion (Bryant & Nutt, 2016; Complete College America, 2014; U. S. Department of Education, 2015). In his first joint address to Congress on February 24, 2009, President Obama set a goal to restore the United States to the country with the highest proportion of college graduates by the year 2020 (U. S. Department of Education, 2011). In response to rising college costs and student debt, the Department of Education has provided a tool called the College Scorecard meant to provide students and families with clear, accessible, and reliable

national data on college cost, graduation, debt, and post-college earnings (U. S. Department of Education, 2011). This data, which includes students' earnings and repayment of student financial aid rates is also broken down into student populations such as first-generation students and students receiving Pell grants. As this data is available readily, the public can analyze institution performance more quickly, more easily, and as they wish. Additionally, many states have adopted performance-based funding measures for public higher education institutions, meaning that states are aligning funding models with state goals and priorities. Thirty-five states have a funding formula or policy in place to allocate a portion of funding based on performance indicators such as course completion, time to degree, transfer rates, number of degrees awarded, and number of low-income and minority graduates. A few additional states are transitioning to this type of funding model (National Conference of State Legislatures, 2015).

The use of analytics in advising is thought to address institutional accountability in student success, concern for the cost of higher education, and budgetary conditions plaguing the higher education sector (Arnold, 2010; Mangan, 2016; Parry, 2012). Proponents of academic analytics tools argue that the power of historical data sets, risk assessment, personalized and targeted interventions to individual students, tracking of academic performance and student engagement, behavioral nudges, automated curriculum sequencing, and milestone courses can impact student success metrics (Mangan, 2016; Milliron et al., 2014). The use of these tools promises to improve retention and graduation rates, provide students with detailed steps to get back on track if they misstep, and quickly identify students most in need of advising assistance (Parry, 2012; Vendituoli, 2014). Institutions across the world in all types of higher education have taken steps to find ways to leverage data to support institutional goals (Arnold, 2010). Using this approach to increase transparency and increase access to information has shaped the

use of data at higher education institutions themselves. Calls for improvement in student success coupled with a growing trend of technology in higher education and a capacity to collect and process enormous amounts of data has resulted in the concept of integrated planning and advising services (IPAS) (EDUCAUSE Learning Initiative, 2014). IPAS are defined as "an institutional capability to create shared ownership for educational progress by providing holistic information and services that contribute to the completion of a degree" (EDUCAUSE Learning Initiative, 2014, p. 1). The role of academic analytics on college campuses in the form of IPAS have taken shape as early alert systems, technology systems that allow advisors to monitor risk levels of groups of students and perform electronic campaigns to reach out to those students, and systems that allow students to understand if they are on-track or off-track for their program and require advising meetings and change of major based on those outcomes. The Education Advisory Board's tools, which this study focused on, are one example of IPAS.

Pressure leading to use of academic analytics. The use of academic analytics have become an important part the higher education landscape in order to provide students and advisors with just in time information to identify potential barriers to completion and the resources to overcome them (Bill & Melinda Gates Foundation, 2016). This is important because when students do not earn degrees on time, they take excess courses and through these behaviors drive up the cost of their education. Only 59% of full-time students who begin college will earn a degree within six years (U. S. Department of Education, 2014). Only 19% of students earn a bachelor's degree in 4 years at non-flagship institutions, and only 36% of students earn the same degree in 6 years at a flagship institution (Complete College America, 2014). Students pursing their degree accrue an additional 14 credit hours on average that are not needed to meet the minimum number of hours to graduate (Complete College America, 2014). Colleges spend

a large amount of resources on freshmen – many students complete their first year but leave without having earned a degree (Tyson, 2014). The Education Advisory Board has found that academic support is delivered disproportionately to the highest performing students because they seek out the support and to the students who are just on the edge of failing because institutions see that they are at risk (Tyson, 2014). This overlooks the students in the middle – those who may be influenced by a just-in-time intervention.

Institutions in the United States spend 5%-12% of their budget on student services, equating to over $1 billion spent annually on planning and advising services for students (National Center for Education Statistics, 2014). Neither on-time graduation rates nor freshman retention rates have improved over the last ten years despite this spending (Tyton Partners, 2015b). The practice of academic advising is facing mounting pressure to change to better serve students (Tyton Partners, 2016). Institutions are rethinking advising systems and in response over 100 vendors in the integrated planning and advising services market have introduced products aimed at improving student retention and graduation rates (Tyton Partners, 2015b). These tools, using the power of academic analytics, can predict who will apply to an institution, who will struggle, who will be retained, who will go on to earn a degree, and what interventions will be best to help students along the way (Lane, 2014). Some caution that an IPAS tool alone can't be expected to fix all institutional concerns. It is critical that the right tool is chosen to address the specific concerns of the university and that the tool fits institutional cultures and business practices (Brooks, 2014; EDUCAUSE Learning Initiative, 2014). Charlie Nutt, Executive Director of the National Academic Advising Association warns that university leaders must buy the technology to support the advising system in place – not buy the technology and then figure out how to make advising fit it (Nutt, 2016).

Students also have different demands from advising than in the past. Generation Z (those born between 1996-2011 and entering college after 2015) students differ from millennial students in that they are more independent, more financially savvy, and do not know a world without wifi (Fast Company, 2016; Williams, 2015). Generation Z students are seeking tailored and transparent academic advising, assistance ensuring that they get a return on their education, and to be provided with a seamless technology experience (Education Advisory Board, 2017). As the number of high school graduates is declining nationally, the number of adult, part-time, and online students is increasing, with over 35% of undergraduates aged 25 or older and one in four undergraduate students raising children (Lumina, 2017). These nontraditional students expect a "safety net" to monitor their progress and to be provided flexible options in scheduling, communication and advising approach (Education Advisory Board, 2017). A study of 19 institutions who implemented IPAS tools revealed that 86% of undergraduate students expressed at least moderate interest in their institution using early alerts for academic progress concerns and 84% of students were at least moderately interested in receiving feedback about their academic performance compared with that of other students (Dahlstrom & Bichsel, 2014).

Use of IPAS tools has already shown early signs of success. Arizona State University (ASU) developed their own predictive analytic tool, eAdvisor, and began using it in 2008. This tool alerts students if they have gone "off-track" from their degree path and can make predictions on which students will be successful in a course by the 8th day of class with 70% accuracy (Parry, 2012). ASU has increased first-to-second-term retention by 8% and increased their four year graduation rate by over 15% (Marcus, 2012). Working against the nationwide average of bachelor's degree students taking 14% more courses than required to graduate, Austin Peay State University leveraged academic analytics to attack the challenges of course selection and

maximize student success (Wildavsky, 2014). They developed the Degree Compass system, which combines data mining with behavioral nudges to recommend courses that will help students move through their major with success and in the most efficient manner possible (Wildavsky, 2014). Purdue University developed an academic analytics tool, Course Signals, designed to predict student risk status based on class performance, interaction with the learning management system, previous grades and test scores and student demographic information (Arnold, 2010; Wildavsky, 2014). Use of this system in some courses resulted in higher final grades and a higher four-year retention rate (Arnold, 2010). When technology in the three core categories of IPAS, course planning and degree audit, analytics and reporting, and identification of at-risk students are adopted and used widely, institutions report strong alignment, collaboration, and accountability (Tyton Partners, 2016). This study focused on the use of the Education Advisory Board's SSMS tool, and this tool claims similar improvements to performance.

Resistance to Change

Higher education has been criticized as moving too slowly and failing to respond to the needs of a changing market (Kezar, 2014; Tierney, 2004). Although there are several characteristics of higher education that impact how change is handled, I will focus in this review only on the lack of employee turnover with short administrative tenure. Faculty and administrative staff of institutions have very low turnover compared to other sectors, while presidents and other administrators tend to have short tenures (Cohen & March, 1991). Change implemented from presidents and administrators, a new initiative or technology for example, is less likely to occur, because other employees can stay beyond their plans for the change (Cohen

& March, 1991). This defining characteristic of higher education may lead to a change process met with resistance.

This characteristic of change is important as this study aims to understand the change to the role and function of academic advising because of technology adoption. In November 2015, Tyton Partners, with support from the Bill and Melinda Gates Foundation and in collaboration with the National Academic Advising Association (NACADA), National Association of Student Personnel Administrators (NASPA), and the National Association for College Admission Counseling (NACAC) initiated a survey on IPAS technology. This survey received 1,400 responses from faculty, administrators and professional advisors, with 58% indicating a responsibility for the advising job function (Tyton Partners, 2016). Nearly 60% of respondents report widespread use of at least one IPAS subcategory and growth in institutional spending on advising technology and staffing (Tyton Partners, 2015a). However, the survey also reveals that across four separate segments of respondents the push for change to increase the use of IPAS tools is met with resistance (Tyton Partners, 2016). In a separate study of 19 institutions that implemented at least one IPAS tool, change management and lack of campus buy-in from end users was listed as the key barrier to a successful implementation (Brooks, 2014). Integration of these technology solutions requires change beyond simply buying and implementing new software. "Systemic change includes reimagining how faculty and staff support students as they pursue college degrees. Technology investments are, in fact, only the first step" (Desrochers & Staisloff, ND, p. 1). As academic advisors are the primary channel for implementing IPAS solutions, successful deployment may also be impacted by initiative fatigue and administrators may have unreasonable expectations for how quickly change can occur (Tyton Partners, 2016).

This is relevant to this study because advisors are the ones who must successfully implement IPAS in order for the desired outcomes to be reached.

Conclusion

External pressures have forced higher education to change. With retention as a primary focus, and advising as the main vehicle to make changes to retention, there may be changes needed to advising systems. However, developmental advising is the primary advising practice that the field has been built on and continues to be the most comprehensive and fundamental approach. As IPAS are brought into advising settings and the work of advisors, how do they change this work? How do academic advisors remain developmental in approach when technology suggests that they focus on predictive components? As these systems call for the use of proactive advising practices, where is the line between data-informed outreach and advisors simply waiting for a computer to provide them with a script?

Chapter 3: Methodology

This research utilized a comparative case study approach to better understand the experiences of professional academic advisors at two University Innovation Alliance (UIA) institutions that have implemented the Education Advisory Board's Student Success Management System (SSMS). The study examined how advisors and advising administrators perceived that the role of academic advising was affected, their perception of any impact to advising approach or philosophy, if one existed on their campus, and how the implementation process impacted their work. Although there is some emerging research on Integrated Planning and Advising Services (IPAS) technology in advising (Tyton Partners, 2015a, 2015b, 2016), there is very little known about IPAS and their impact on academic advising. This chapter describes the research design, methods, and analytical approaches that were used. The perspectives of advisors and administrators were collected through interviews and site visits conducted during a seven-month period of fieldwork. Additional data obtained from the institutions supplement these interviews.

Research Questions

The function of research questions is to limit the pool of potential data to that which is relevant to the topic (Maxwell, 2013). The research questions that guided this study were developed prior to data collection in order to frame examination of advisors' experiences implementing and using the SSMS on their campus. During data collection and analysis the questions were refined to better focus my inquiry on the experiences of advisors and administrators. The initial formulation of the research questions were as follows:

1. How has IPAS affected the role of academic advising?
    a. How has implementation of IPAS affected advising approach/philosophy?

b. How has IPAS affected interaction with students?

In the early stages of interviewing and initial data analysis, I eliminated the second sub-question regarding how IPAS affected interaction with students because I found it to be a distraction to the core issue of IPAS implementation and the role of advising. Furthermore, as students were not included as participants in the study, it became clear that I would not be able to fully address this question without interviewing them as well. I asked participants about how the tool was used with students and about student awareness of the tool, but did not ask the advisors to share their perception of the impact to students Additionally, I added a research question to better understand how the implementation process impacted advisors and administrators' work. It became clear in the early stages of interviewing that *how and why* the tools were implemented was as important as *how advising was impacted* during and after the process. The final research questions guiding the study were as follows:

1. What led to the implementation of the EAB SSMS and what steps did the institution follow to ensure a successful implementation?
2. How did the implementation process of the EAB SSMS impact academic advisors' and administrators' work?
3. How has implementation of the EAB SSMS affected advising approach/philosophy?

Qualitative Methods

To answer the research questions, I used a qualitative, case study method. "Qualitative research is a situated activity, that locates the observer in the world. It consists of a set of interpretive, material practices that make the world visible" (Denzin & Lincoln, 2003, p. 2). In order to best understand the complexities of integrating academic analytics into advising, advisors must be asked. The researcher must understand the situation of advising and the context

of this moment in time. As such, the most appropriate way to answer my research questions was through qualitative methods. Because advisors do their work in a particular context, particularly with respect to the use of IPAS, a qualitative case study method was employed. Qualitative research provides rich, descriptive insight into a phenomena or experience (Merriam, 1998; Patton, 1990) and thus participants were selected for their ability to bring this rich insight into the phenomena being studied. In this study, participants were selected because they were in or had previously been in advising roles at institutions implementing IPAS tools within the advising space.

Case Study Approach

A case study design was used to gain an in-depth understanding of a situation and meaning for those involved. "The interest is in process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation" (Merriam, 2002, p. 19). Case studies provide an intensive description and analysis of a single unit or bounded system (Merriam, 1998, 2002; L. M. Smith, 1978). In this study, advising and implementation experiences of two campuses using academic analytics allowed for in-depth understanding of the reasons the institution implemented the IPAS tool and how they did so, the impact of the implementation process to advising work, and perceived impact to advising approach or philosophy. For the purposes of this study, context was bounded by the implementation process at each institution. The two sites are different in their approach to advising, geographical location, and students served; but comparing the experiences of advisors in each case revealed insights into the role of advising and any impacts to this role from the implementation of an IPAS tool.

Individual advisors work on their campuses, serving students and providing advising. In recent years, IPAS has been implemented in a variety of settings and situations (Dahlstrom & Bichsel, 2014; Tyton Partners, 2016). Because of this shift in technology, and the potential change to approach of academic advising on each campus, understanding the specific case, and the reactions of advisors was critical.

Comparative Approach

The comparative approach to the study aimed to investigate a single phenomena in multiple contexts to compare and explain the differences found (Phillips, 2006). The SMSS implementation process varied according to its context, which made it important to take account of the particular environment. This study utilized a comparative method by examining two UIA institutions utilizing the SSMS. Comparison of multiple cases helps to provide a more robust understanding than a single perspective (Phillips, 2006; Yin, 2009).

Site and Participant Selection

Given the purpose of this study, I interviewed advisors at two campuses using a professional staff academic advising model that implemented and were utilizing the EAB Student Success Management System. This provided context and understanding for the implementation of the tool on the specific campus, and for the advising models, philosophies and approaches informing the work of the interviewee. The study focused on two four-year, public, doctoral degree-granting universities. The fall 2016 enrollments of the two institutions ranged from approximately 31,000 to 44,000 undergraduate students. Although each case is bounded by the experience of the individual institution's implementation process, it was important to utilize institutions with similar characteristics to help support the transferability of study findings (Ravitch & Carl, 2016). The identity of the institutions represented in this study is intentionally

withheld to provide confidentiality for the study participants. The universities are identified as Southern State University (SSU) and Midwest State University (MSU).

These two institutions were chosen because of the differences in their advising model; SSU operates a large, centralized, professional staff advising model whereas MSU operates within a decentralized advising structure with advising models including professional academic advising staff only, faculty advising only, and hybrid approaches throughout the institution. They were also chosen because the implementation experience was vastly different due to the timing between their implementations and the advances with the tool in this time frame. Southern State was a founding member to help launch and develop the EAB tool. Southern State University began looking for vendors to assist them with a more data-informed, just-in-time intervention tool to help support the vast changes they were making in academic advising, by moving to a centralized approach and requiring specific advising measures be taken with specific groups of students. As they did not find a vendor with the tool they were looking for, they partnered with EAB to develop what has now become the SSMS. Changes and modifications made to the tool in the early stages of feedback were primarily made to meet the needs of SSU and their specific advising approach. Midwest State University began their implementation after the proof of concept had been developed and several large institutions had already begun implementation or use. The tool continued to develop throughout the MSU implementation, but these modifications were representative of the needs of a much larger user base.

Advising at Southern State University

Southern State University has a centralized advising structure. Freshman, sophomore, and junior level students are all advised in a university wide advising center and senior level students prepare for graduation by meeting with a professional staff advisor or faculty advisor

from their college. SSU students are required to meet with an advisor each semester in their freshman year and after that academic advising is voluntary. In addition, all students are required to declare a major by the end of their second semester, and students can only declare a major by meeting with an academic advisor. Southern State's advising center houses over 60 advisors representing every college and major and in addition offers a cohort of advisors trained to help students select and transition between majors (Southern State University, 2016).

Southern State has been using the EAB's Student Success Management System platform since 2012, and is frequently cited as an institution of best practice within the Education Advisory Board. Here, I interviewed seven academic advisors at varying career levels (Advisor 1, 2, or 3 with increasing levels of responsibility and pay), two assistant directors, and one central administrator. SSU utilizes a career ladder approach with academic advising and advisors generally hired at an advisor 1 level with additional responsibility and pay as they move through the ladder to advisor 3. All those interviewed were a part of the university-wide advising center. At SSU, responsibility for SSMS implementation and ongoing use, and supervision of academic advisors is done at the assistant director level. Both assistant directors that I interviewed were in place at the time of the SSMS implementation and worked closely with the Education Advisory Board to ensure its success.

Advising at Midwest State University

Midwest State University has a primarily decentralized advising structure. Students receive academic advising in the college they have chosen from the beginning of their first semester. Advisor type varies some by college – models represented include a centralized, professional advisor model with no faculty advising; a central advising/student service unit with professional advisors working with undeclared students who then transition to academic

departments and receive advising from professional and/or faculty advisors; or advising in academic departments by professional and/or faculty advisors. Midwest State has a professional staff member serving as the University Academic Advising Coordinator. This role is designed to work with greater University initiatives that support and affect academic advising, including the EAB SMSS tool. MSU has a university-wide advising committee that has advisor representation from all of the colleges as well as many of the academic and student affairs units. A professional advisor and faculty advisor co-chair this committee (Barnes, 2016).

Midwest State University piloted the SSMS in the 2015-2016 academic year with a second year of pilot due to additional features added to the platform. They began implementation with a group of seven colleges and departments rather than with all colleges across the institution. I interviewed five advisors coming from these areas, two student services directors, and two centralized administrators. Two of these participants were members of a university-wide advising committee, and able to provide contextual knowledge of the SSMS implementation and its impact on advising.

Leveraging the network of University Innovation Alliance, I utilized snowball sampling by using a central point of contact at both institutions, who then helped me to identify advisors and administrators who had experience with the SSMS implementation. I requested their participation via email (See Appendix 1) and provided details about the study including the time commitment and confidentiality (See Appendix 2). Participants who agreed to participate in the study were offered confidentiality and assigned pseudonyms.

Tables 3.1 and 3.2 provide an overview of the study participants. Advising participants (See Table 3.1) represent a range of types of advising models, years of advising experience, and number of institutions they have been employed as an advisor. Two-thirds of the advisors had

less than five years of advising experience and two-thirds had held advising positions at two institutions. Administrator participants (See Table 3.2) represent various titles and areas of the institution that they report to.

Table 3.1

Advisor Profiles

Institution	Advisor Name	Advising Center Type	Years of Experience	Number of Institutions Employed as Advisor
SSU	Tiffany	University Wide Advising Center	Less than 5 years	2
SSU	Caleb	University Wide Advising Center	Less than 5 years	1
SSU	Pamela	University Wide Advising Center	Less than 5 years	2
SSU	Ted	University Wide Advising Center	Less than 5 years	2
SSU	Elise	University Wide Advising Center	Less than 5 years	2
SSU	Jeremy	University Wide Advising Center	Less than 5 years	1
SSU	Susan	University Wide Advising Center	Less than 5 years	1
MSU	Kevin	Departmental	Less than 5 years	1
MSU	Rebecca	College Advising Center	5-10 years	1
MSU	Sally	Departmental	15+ years	1
MSU	Alexis	College Advising Center	5-10 years	2
MSU	Amanda	College Advising Center	5-10 years	2

Table 3.2

Administrator Participants

Institution	Administrator Name	Title	Area of Responsibility
SSU	Jason	Assistant Director	University Wide Advising Center
SSU	Eric	Assistant Director	University Wide Advising Center
SSU	Tom	Vice President for Enrollment Management and Student Success	Central Administration
MSU	Deb	Director for Undergraduate Programs and Academic Quality	Central Administration
MSU	Bridget	University Academic Advising Coordinator	Central Administration
MSU	Jessica	College Level Student Services Director	College Wide Advising Center
MSU	Heather	Departmental Student Services Director	Department Wide Advising Center

Data Collection Procedures

Case studies draw on multiple sources of information for data collection, often coming from observations, interviews, documentation, archival records, and physical artifacts (Creswell, 1998). In order to gain proper understanding of the institution and their decision to implement an academic analytic tool so that I could better understand how this shaped an advisor's role, I

reviewed strategic plans, planning and priority reports, websites, and other publicly available documents for Southern State and Midwest State. Additionally, one participant on each campus was interviewed to help provide some background information to the implementation and the factors leading up to it. The Vice President for Enrollment Management and Student Success on the Southern State campus and the Director for Undergraduate Programs and Academic Quality on the Midwest State campus served in these roles.

Twenty-three participants initially expressed interest in study participation; nine advisors and three administrators at SSU and seven advisors and 4 administrators at GSU. Nineteen individuals ultimately participated. I visited each campus for site observation and to conduct any interviews possible during that visit. Afterwards, I conducted phone interviews for any participants with conflicts during my visit. Interviews were one-hour in duration and were semi-structured to allow for flexibility and to customize the questions for the participant (Ravitch & Carl, 2016). An interview protocol is included in Appendix 3. I audio recorded all interviews and took field notes during the interview. Interviews were conducted in the advisor's office when completed during the site visit and conducted in my office via phone if completed after. Later, I transcribed the interviews verbatim.

Prior to any data collection, I gained approval for the study from the University of Kansas Office of Research Internal Review Board (IRB). Appendices 1, 2, and 3 outline the recruitment email, informed consent, and interview protocols. Before collecting data at Midwest State University, they requested that I submit my University of Kansas IRB approval to their own IRB as a notification of the research to be conducted.

Data Analysis Procedures

I maintained a detailed system to organize all field notes, observations and interview transcripts. This data was categorized by site and then by study participant. I manually organized and coded the data from the study using first and second cycle methods to gain the deepest understanding possible. First cycle methods are those that happen during the initial coding of data and second cycle methods are those that require analytic skills such as classifying, prioritizing, synthesizing and theory building (Saldana, 2016). As first cycle coding rarely identifies all that is to be gleaned from the data, second cycle recoding was used to further "manage, filter, highlight and focus the salient features of the qualitative data for generating categories, themes and concepts" (Saldana, 2016, p. 69). I employed descriptive coding, summarizing in words and short phrases the responses from the interviewee. I first made these notes in the margins of the transcript and as I moved from transcript to transcript I continuously compared the data and grouped the comments and notes that went together. For example, the second question of my protocol asked respondents to share their personal advising philosophy. I made notes referring to the type of advising philosophy they described (prescriptive or developmental) and notated particular words that best represented how they approached this work as an academic advisor. As I continued to code, I referred back to the notes from previous transcripts and began to sort the responses into advising model. This descriptive coding allowed me to begin categorizing the data and served as a foundation for further analysis. After working my way through the transcripts in my first pass and then re-reading the transcripts to be sure that I had not missed anything, I reviewed them a second time looking at each interview question individually seeking out additional descriptions, clarifying my first observations, and searching for commonalities and differences. This second-cycle coding revealed initial categories that I

listed in my personal notes to help guide the analysis moving forward. These categories were simplistic (such as developmental approach, office/unit wide shared advising philosophy, access to data, ease of use, etc.) but allowed for me to start to see how the data fit together. After listing and then refining these categories, I searched again through the data and matched it to each of the categories I had constructed using a color-coded system. Finally, I condensed my categories into central ideas for administrators and advisors of each institution. The final central ideas included:

- How the EAB SSMS originated, information was shared, and implementation details
- Using the EAB SSMS in an advising context (consistent/standardized methods and use, student knowledge of the system, basic advising tool functionality, etc.)
- Expectations for use of the EAB SSMS, evaluation of use, characteristics of advisors most successful with tool and training needs
- Administrator views of the highlights and challenges with using the EAB SSMS
- Advising approach (personal/shared)
- Description of changes to advising work through use of EAB SSMS system
- Value in advising role
- Advisor views of the highlights and challenges with using the EAB SSMS
- Changes recommended by advisors

After completing the within-case analysis described above, I conducted cross-case analysis by first comparing the categories I had created for each institution and reviewing the data that supported each. Then I looked for patterns between institutions, between the demographic

characteristics of the academic advisors, and sought to find explanations for the differences that emerged.

To triangulate the data and ensure accuracy, I first transcribed all audio recordings myself, and then read over the transcripts while listening to the audio before beginning the coding process. After I was sure that I had transcribed the interviews correctly, I shared the transcribed interviews with study participants asking for changes or feedback.

Limitations and Bias

Given the purpose and research questions of this study, case study is the appropriate method. This method provides a means of investigating the rapidly changing advising landscape and will provide a rich and holistic account of the phenomena. It is expected to offer insights and illuminate meaning of advising with academic analytic tools that are just beginning to be researched (Tyton Partners, 2016). Qualitative case studies are limited by the sensitivity and integrity of the researcher (Merriam, 2002). Readers and authors of case studies must be aware of biases that can affect the final product and that the conclusions from the cases may not be able to be generalized. Additionally, case study has been faulted for its lack of representativeness (Hamel, Dufour, & Fortin, 1993). Despite these limitations, case study method is the best way to fully understand the circumstances for academic analytic implementation and the affects on the role and function on academic advising. As my study only considered two institutions implementing one specific IPAS tool, the findings may not be generalizable to other institutions.

Researcher Perspective

In this study I explored the reason for the EAB SSMS implementation and the ways in which the institution ensured their implementation was successful, the impact of the implementation to advising work, and the perception of change to the approach/philosophy of

advising. As qualitative research is interpretive, this can introduce strategic, ethical and personal issues into the research process and researcher must identify their bias (Creswell, 2001; Merriam, 1998). I have worked in academic advising for more than ten years, and currently serve as a director over a large, centralized academic advising center at a research university. Much of my professional development and training has been within academic advising and specifically within the areas of developmental advising, student development as it relates to developmental advising, technology in advising, and assessment in academic advising. I have served as an active member of NACADA, participating in conferences, planning and serving on committees and interest groups to help advance the field of academic advising. In practice and in training and developing others, I utilize a developmental approach over a prescriptive advising approach.

My background impacts in the study in that I evaluated the responses of the interviewees in a similar fashion to a job interview for a member of my team – I listened for words and phrases to describe academic advising; advising approach; how, when, and why technology was utilized; and how the respondents reacted to the changes to their work and environment. I did so in an effort to make sure that I understood their preparation for and experience in the field of academic advising, to better understand what they encountered through the implementation phase, and what benefits and disadvantages they described as a part of it. As someone who values developmental advising and is responsible for making strategic decisions about how we best use the advising resources we have, I was constantly working to observe, to listen, and to ask for clarification but not to insert my own ideals and opinions. My background also impacts the study in that my interest in this topic is based on my own personal experience as my institution implemented the EAB SSMS and later abandoned use of the tool due to limited buy in from advisors and resistance to the leadership in place.

Conclusion

In this chapter, I revealed the methodology that guided my study. The research questions that I used to guide my study were clarified after initial data collection and are outlined. I provided the rationale for qualitative analysis and a multiple case study method. My site and participant selection were outlined and tables have been provided of the participants at each site. I provided information related to data collection and analysis and address the limitations and bias that I bring to the study.

Chapter 4: Southern State University

Southern State University (SSU) is a large, urban, public research institution. Located in a large metropolis, Southern State has chosen to couple similar services, such as the advising center into several floors of the same building, for the ease of student use. SSU was chosen as a case due to their successful implementation of the EAB SSMS and their centralized advising model. I interviewed one central administrator, two advising administrators and seven academic advisors at SSU. This chapter will outline the implementation of the EAB SSMS at Southern State and will provide the perceptions of the administrators and advisors.

Implementation

Guided by the 2011 strategic plan, SSU has generated national recognition and become a model for success in helping students from all backgrounds succeed and graduate. *U.S. News and Word Report* has ranked the university highly for innovation and President Obama praised the university for helping more students find pathways to graduation (Southern State University, 2018). The university's first strategic goal was to "become a national model for undergraduate education by demonstrating that students from all backgrounds can achieve academic and career success at high rates" (Southern State University, 2018, p. Goal 1) and included initiatives focusing on scholarship support, establishment of a student success center, creation and implementation of a signature undergraduate experience, establishment of a honors college. An assessment of academic advising beginning in 2009 revealed that advising was siloed in approach and fragmented in terms of record keeping, training, information sharing and advising methods employed (Tom, 2018). A review of institutional data at this time also revealed that those students accessing their academic advisors tended to fall into two categories: good students (honors students, students with high academic records, etc.) who sought out advising and

followed up with recommendations and low performing students (on academic probation, low academic records, etc.) who sought out advising as a result of an academic policy requirement.

SSU's data indicated that the higher performing students were predicted to do well in college and graduate with or without any advising interaction. The lower performing students interacted with advisors too late to make a difference in their overall graduation rate (Tom, 2018). In 2010, SSU considered what modifications could be made to academic advising in order to provide advising interventions to the students in the middle tier of performance, those "who with the right advising, the right nudges and information at the right time, may be able to be converted from a drop out to a graduate" (Tom, 2018).

Prior to making any changes to academic advising, Southern State had been using a data informed approach in other strategic areas and they wanted to find a way to use the data to find the students who were at academic risk much earlier. They did a call for proposals to vendors, met with various vendors and at the time most vendors offered more advising tools than data informed approaches to provide early alert for student success. Because they were already a part of the EAB Academic Affairs Research Collaborative, SSU administrators shared their concerns and the limitations they had found in vendors. EAB was just starting to explore the gap in early alert and using data in a predictive manner for student success. The SSU president signed a contract with EAB in late 2011 to work on the project together, because at this time there was no product or prototype to demo. Over the next eight months, EAB and president and vice president level leadership members at SSU and two other institutions worked together to develop the first EAB academic analytic tool. In the same time frame as the launch of the SSMS, the institution decided they also needed to make a substantive change in their academic advising model. SSU worked directly with their human resources office to standardize academic advisor titles,

responsibilities, and pay ranges and ensured a standardized training approach. In 2013, a centralized advising center was established with the stated outcomes of improving communication and support of undergraduate students. More than 40 new professional advisors were hired, resulting in an advising ratio lowered from 700:1 to the national average of 300:1. The decisions to grow and centralize academic advising and implement the use of the SSMS tool were shared with the SSU advising community through the strategic planning process. Information related to the development and launch of the tool was first shared through various leadership channels and then advisors were notified.

I interviewed two assistant directors at Southern State, both responsible for helping to implement the SSMS and shape the direction of the newly formed advising center. Both shared that as the implementation phase wrapped up and SSU has become more comfortable with use of the tool, the outcomes have shifted to ways to integrate data into the relational process of advising. Jason explained the outcomes change over time:

> At the implementation stage, it really was about getting the institution on the same page, creating some efficiencies in communication and process, and creating more high impact, low cost contacts. And now it is really about the personal engagement with a student. It is not only about being able to target and understand how to navigate the progression barriers, but it is about how to take the next step and integrate the data into a more relational process. So I think we went from being very relational, to almost reliant strictly on technology, and now that we have grown in our comfort with that efficiency and effectiveness process, now it is how do we marry the two together and continue to benefit from those efficiencies of scale but mange to do that in a way we are truly customer service oriented and relational and meeting the needs of our students

> academically, financially, personally, and emotionally -- all simultaneously (Jason, 2016).

Advising Administrators Perceived Impacts to Advising

Students at SSU have had some exposure to the advisors' use of the SSMS. Administrators report that it can be used in an advising session for major and career exploration or can be used to discuss risk analysis for students who have veered off course or not making progress. Alternatively, in some cases the tool may only be used in the background, providing information to advisors but that the advisor doesn't directly discuss with the student. Eric described Southern State's approach to show students their profile utilizing the "student-view" including their class scheduling, different major options and exploration tools, etc. He remembered a time that he shared this view with a student and the screen indicated this student had an alert and risk analysis of the medium category and the student became concerned:

> They [ask] 'I need to drop out of school?' and I [say] 'No, you are making A's and B's, you are just off track by one course. Which is not detrimental, but in the plan that we normally have, you would take economics this semester and you took a different class so the marker is going to go off.' So I have to go through an explanation of calming them down with that (Eric, 2016).

Both assistant directors said that advisors also have to navigate what to share with students and when.

At Southern State, advisors rely heavily on the functions of the SSMS to do their job effectively. Advisors use the tool to monitor sub-populations of students within their assigned caseload, such as students who are in certain majors or students who are in remedial math. Each month advisors must contact their population by email to share key information and dates. In

addition, advisors can reach out to those sub-populations to provide more specialized information. Advisors decide how they want to use the report functions within the SSMS to determine what issues they want to tackle with their students, such as enrollment in the wrong class, falling off track, or not performing to academic standards. Advisors are also asked to execute appointment campaigns to get students to come in and meet with them. The tool helps advisors to identify the students who haven't seen an advisor and need to be prioritized for an appointment. The system also overlays the class schedule of a student with their advisor's availability to find a time that works for them – all by clicking a button in the email sent by the advisor. This has driven student traffic for the advisors' calendars and also helps managers look at calendars and see how busy advisors are. In addition, advisors also utilize a supplemental database in Excel (referred to by Jason and Eric as "the log") that provides details on each student in the population and particular metrics for their status including "on-track/off-track", enrolled for the following semester, and the last time an advisor attempted to make contact with the student. Assistant directors collect these logs on a regular basis to ensure that advising staff are meeting expected levels of output and interacting with their advisees with the frequency expected by advising leadership.

When meeting with students, advisors are expected to utilize a proactive advising approach. Advisors focus on sharing resources with students and pushing them to use them even if the student doesn't think they need to. Jason talked about the shift in advising approach as part of the strategic plan, establishment of the advising center, and launch of the SSMS:

> Prior to EAB, it was really a kind of wait and see, first come first serve, walk in, we will see the students who present themselves to us; but there was no outreach made by the university to attract students who weren't geared to seek out the services. In terms of

> advisors using EAB now, it is really in developing a proactive outreach strategy for student engagement that is the predictive analytics platform to help lead and guide advising discussions with students. Specifically with those students who are either at a crossroads with the determination of a major or those students who are in a competitive or closed major who may not any longer have access to the major as an option (Jason, 2016).

With the launch of an analytics-based advising tool, it is expected that some aspects of hiring, training and evaluation of advisors required modification. Assistant directors shared that they have found advisors who are new to the field or do not have a large number of years of experience find the most success. General comfort with technology has also been found to be a critical factor in their experience. Jason shared that success is most determined by someone not already ingrained to a certain way of advising or focused on the traditional relationship type of advising:

> Generally speaking, I think our experience here is the advisors who come in who haven't known any other way have been those who have been the very early adopters and those that have had to break old habits and learn a new construct tend to be the ones that struggle a little bit. Those who think more strategically, more linearly, more logically, tend to be able to break their population down and work through them, where those who are more creative, abstract thinkers tend to struggle a little bit (Jason, 2016).

Because of this, SSU has made some shifts in their hiring to find people with significant experience with technology and/or some data literacy skills. Advisors are formally evaluated in their use of the advising tools, including benchmarks and metrics for outreach, student contact, and review of a student record. Jason explained how those benchmarks are used:

> With the use of the dashboard, that supplemental Excel workbook [the log], we collect those as assistant directors twice a month – at mid-month and end of month. And that is kind of used as a formative evaluation tool throughout the semester. Each of our advisors, on a term-by-term basis, are given a goal calendar that has specific expectations. So with the use of the platform, we really have divided our term into three segments – pre-registration, mid-term, and post withdraw date. Within each of those segments there are weekly or biweekly goals in terms of the number of students we should be reaching out to, the types of [appointment] campaigns that we would be running in the platform, and we have target milestones in terms of the number of students that we are reviewing and contacting and that we are advising on a face to face basis. On a term-by-term basis we ask that our advisors meet with 70% of their population and we ask that they contact (either in a face to face meeting or through email) 100% of their population. And throughout the term we have broken down on a weekly basis if you want to hit those goals, you know, the percentage that you should be at week 3 and this is the percentage that you should be at week 5. And we continue to do that throughout the semester. So we are consistently having conversations with our advisors based on those average milestones on a weekly basis (Jason, 2016).

Training has been critical in ensuring that advisors are able to meet these milestones. Assistant directors and lead advisors were trained on how to use the EAB platform, the supplemental Excel workbook, and the best ways to integrate data into appointment campaigns.

Administrators were asked about the highlights and challenges with implementing the EAB SSMS on their campus. Both found significant value for their advising center from some basic advising functions that the platform provided including one central record for each student,

the ability to keep and share advising notes, the ability to create a document trail for student outreach, and overall the ability to better track students and their performance. Additionally, the assistant directors feel that the tool has made it easier to outreach to students, helped managers and those responsible for supervision to be more efficient and better track the efforts of advisors, and made it easier for students and the advising center during times of advisor turnover. Both mentioned that the platform provides better access to student data for academic advisors, and Jason especially expressed that this was critical for the future of academic advising:

> The platform as provided a lot of legitimacy and data validation to a position and field that has been intuitive for far too long. The platform really provides us with a solid factual database foundation on which we can have a discussion and say, 'You know this is no longer my opinion on why this may not work for you. This is a platform that has 10 million data points and I can show you that of the students that have been in your position, this has been an incredibly difficult road.' In the past I've never had that power. I've never been able to have true evidence to support the anecdotal evidence that I've relied on in guiding a student's path (Jason, 2016).

Both assistant directors shared that the implementation has not been without challenge, however. Resistance to change was an important factor mentioned, and both share that gaining buy-in for the implementation was critical. In the case of Southern State the mandate from the university administration to use the tool and the very visible strategic decision to implement it helped to lessen resistance. One of the key benefits to the SSMS is that they are constantly modifying and improving the tools based on user experience. But this constant change and frequent modifications can impact buy-in for advisors, especially if they are more hesitant and

less comfortable. Eric explained his experience in continually working with staff to see the positive of tool that is constantly evolving:

> You could bring in the best platform ever…and people are going to still try to find ways to stay with their old ways. But you have to keep trying to show them the pros and how it is going to benefit them. It is difficult to adjust to the change, the product is an ever-changing product and they are trying to do it for the better. People have put in requests [to change the system] and they have been good at hearing the requests and trying to accommodate it. So, in my opinion, that can be difficult but it is also a pro at the same time. Because they are showing that they are trying to move forward (Eric, 2016).

Because SSU is a national model and frequently cited as a leader of advising technology, I asked both the assistant directors about advice they might share with institutions considering the purchase of the EAB's SSMS. Both found value in relying on the direction of university leadership that the tool would be utilized when implementation or buy in became challenging. Both also stressed the importance of advisors being strategic in how they work with their assigned students. Personal interaction with information relevant to the student is stressed as the way to make the interactions as meaningful and valuable to the students as possible.

Advisors Perceived Impacts to Advising

In addition to interviewing administrators at SSU, I also interviewed seven academic advisors to gain a better perspective of the tool from a front line viewpoint. All seven academic advisors described the population management and/or targeted outreach as outlined above; five specifically mentioned the SSU approach as both population management and one that is focused on doing targeted outreach to students, one mentioned only population management and one mentioned only targeted outreach. I asked advisors about their personal advising philosophy (an

approach, model, or theory that they use to inform their academic advising). Three of the advisors asked were somewhat hesitant to share or struggled to put their philosophy in to words. When pressed, all seven advisors used words such as “holistic”, “targeted” and talked about the importance of referrals to resources. One advisor, Caleb, focused on meeting the needs of students:

> I think as far as the theories I use a little bit of everything but I think more so on a personal level I advise in a way that the student is always first. I try to meet the students’ needs as well as their wants, but also with the frame of meeting the goals of the university also. So it is kind of the meet in the middle of the road to find out what the student needs but also at the same time try to cross off some of these check boxes that are a university priority (Caleb, 2016).

Another advisor, Elise, also focused on meeting the needs of her assigned students:

> I really like the word intentionality. I love the idea of the intentional model of being very intentional about advising our students. Not doing it willy-nilly, just seeing what are their needs. Just going above and beyond. That is another big advising philosophy for me, just going above and beyond for students. Because you have students that are, you know, don’t have the time or money to spend extra time in college. So going above and beyond to help the students are just that, students. They aren’t numbers and making sure that their needs are being taken care of even if it means taking a year off of school or taking less classes (Elise, 2016).

Tiffany, an advisor assigned to sophomore and junior students in science, technology, math and engineering majors described her approach as holistic:

> I guess very student first and looking at the whole student. It is very easy to get caught up in answering the questions that they have, but try to answer the questions that they don't know that they have, and kind of starting at square one instead of starting four steps down. A lot of times the students don't really know, just kind of starting each appointment like we are starting from the beginning, like nobody told them anything before, that they don't really have any knowledge and then diving into things that might be going on personally for them to make sure that the referrals that I am doing make sense for the student (Tiffany, 2016).

Despite some variance in personal advising philosophy, all seven of the advisors used words such as holistic advising, focus on resources and appropriate referrals for students (either via email or in person) and making a personal connection with students. These words, when coupled with the above mentioned targeted outreach efforts are some of the hallmarks of a proactive advising approach. Although not all advisors could readily attach their practice to a basic advising approach, it is clear that the way that they describe their approach is consistent and rooted in the fundamentals of some facets of proactive outreach.

Two-thirds of the advisors interviewed agreed that their use of the EAB platform helped them to be more effective. Advisors described the platform's ability to help them target and prioritize outreach to students as critical. Caleb described how he has been both more effective and efficient in his efforts:

> Prior to EAB it was like, 'Here is your population of students, work these students – let's get them registered and let's get them graduated.' Now that we have the tool we can strategize in how we are going to outreach those students. Now we can look at students that are high risk early in the semester -- let's get those in here; my students who

> traditionally [don't] come in until the end of the year -- let's try to reach out to them early in the semester to try to get them in. So I think it makes me… more efficient. And it also makes me pay attention to which students I'm reaching out to. Of course we tend to all our students but if I have a student that is a 4.0 GPA and takes 15 plus hours each semester, makes all A's, of course I'm going to reach out to that student, but the services and the resources that student needs is going to be different than my student who might be that C average student who withdraws from a couple of courses, who doesn't go full-time, who is inconsistent with their registration. I might spend a little bit more time reaching out to that student because what they are going to need to be successful is going to be a little bit more than that 4.0 all-American student (Caleb, 2016).

Elise also found that the EAB platform helped her to focus her efforts. She described using the SSMS compared to reaching out to students in a more arbitrary fashion, such as by last name in alphabetical order:

> EAB is your first step, every semester you have 300 students and without EAB it is kind of like what do I do first? I guess I'll look at A – Adams first. But what EAB does is it takes that guesswork out. It is like who are my high risk students, who are my murky middle? And it quantifies that for you. So I know these are my moderate risk students, let me start with them. It lets you know instead of going in alphabetical order, it helps a lot more. EAB does help reach out to those students with things like campaigns, which is something I love. I definitely think it helps us because again the idea is that you don't want to get Amy Adams who is number one on your list and she is an A+ student and you email her first and she'll come in when you really should be asking Stanley who is an S but he is the one that really needs to get in first because he is the one that is right on that

> edge of a B flipping to a C, so I definitely think with EAB you can get that student first (Elise, 2016).

I also asked advisors at SSU to share the value they feel in their advising role and where that value comes from. One hundred percent of advisors described the value they feel is a result of student interactions; from helping students and the thanks that they receive from students. In addition to the thanks and appreciation received, Elise described how she found value in the recognition that her university received for their work in improving student success:

> I think I feel valued with SSU being in the news, that has been a really cool feeling to have like, 'Hey, that is what I do every day – this is really exciting'. So when another university comes to visit or another news reporter is here I think I definitely feel the value in that (Elise, 2016).

Two advisors specifically mentioned that they found value in being able to access data that supports the work that they do. Caleb described using quantitative data to validate the hard work that he does:

> I think the value has improved because…it gives a quantitative value versus the qualitative value. I guess everyone could come in, of course we are all great advisors, that is why we are here, but now EAB gives you the opportunity to have numbers to back it up. I have the numbers to show you that 90% of my students and I have met face to face this semester, and I know I am above the center-wide average. I'm going above and beyond the average (Caleb, 2016).

I also asked academic advisors to share the highlights and challenges with implementing and using the SSMS. Advisors, too, agreed that some basic functionality is a large benefit to using the tool, including a central record, shared notes, and online scheduling. Not all advisors

mentioned the same functionality, but all mentioned at least one of these functions as a benefit. Three of seven advisors felt that it makes it easier to reach students and helps them to be more effective in their outreach and can save time. Susan was especially impressed by her ability to communicate with students:

> I feel like our communication with students has gotten better especially with the appointment campaigns feature and the ability to start the conversation with students via the platform. I'm definitely able to reach out to a lot more students than I was previously. The goal previously was like, yeah, we need to try to contact every student in our population and we would have a great semester if we were able to get close to that. Now there is no reason that you can't. Because you can do those appointment campaigns, you can do those conversations, you can do those mass communications (Susan, 2016).

One advisor did express concern though, that use of the SSMS requires that they are able to review a student's risk level and ensure that it does not discourage students. Tiffany has experienced sharing a risk indicator with a student and the need to round out that information as only one piece of information:

> I would never want a student to see that they are high risk and it to discourage them more than they might already be discouraged. So I think that it is helpful, but only if the advisor is able to very clearly articulate what risk actually means. I say, 'Hey, this is just a signal to me to have a conversation with you about how things are going and make sure that you are comfortable going forward'. It is all about the reframe. So I feel like if an advisor isn't able to have that conversation then it might be difficult for a student to understand or might be discouraging so that wouldn't be good (Tiffany, 2016).

Pamela said that she worries that the constant outreach removes some responsibility for the students:

> I think EAB has changed things for students. We are reaching out to students so often that it kind of strips them of some responsibility, but it is also their responsibility to respond to us. We can't force them to come in but if we are sending them six emails through the SSMS because they haven't registered for classes, I mean they know. Because they check those emails every day. It is whether or not they are responding to them. So that sense of responsibility is there but also, when I was in college I never had an advisor reaching out to me this often. So it is a little bit of both more and less accountability (Pamela, 2016).

Susan described that the tool provides many benefits, but also has made the process feel somewhat mundane:

> I can see both [viewpoints]. The positive is that we are able to have all the information right there for me. I see it as a one-stop-shop for advising in that we can schedule these appointments, we can do these campaigns, we can track a student throughout college, you see the trends. I love it for that. But also at the same time I do also feel like the process is robotic. You go on and you look, and you see the notes, and you see the trends, and you just do the same thing over and over and over again. It has kind of taken that personal-ness away, you aren't really getting to know the student just by talking to them, you're getting to know them by what you see on the computer screen. I understand that is just the way technology and society is going toward and when you deal with 40,000 students that is just going to be the easiest thing (Susan, 2016).

I asked advisors if there was anything they might do differently if they were in charge of advising at Southern State University. Five of seven advisors all indicated that more training was needed. Tiffany described the training that was needed:

> I love the training piece. I feel like there are so many things we could be doing in terms of philosophy and how to manage your workflow and thinking through the student as a whole. I think a lot of academic advisors get really bogged down in the details and then some are so far out that they completely miss the details so I think that we could do a much better job of during the training helping people find that middle ground. You can still see the good that you are doing and the big picture of what we are doing as a University and how we are helping those students, but also not feeling bogged down with the details and the daily work (Tiffany, 2016).

Summary

The implementation of the EAB SSMS at Southern State University came about from the commitment in the university-wide strategic plan to improve academic advising and student success metrics. The experience of SSU as a founding member and primary participant to help to develop the SSMS is unique. Creating a top-down mandate for use of the tool coupled with the centralization of academic advising and hiring of such a large group of new advisors helped to ensure that the vision for success was realized and that SSU's approach became institutionalized. Moving to a tool that directs the advisor when and how to intervene with students and creating a formal evaluation of conducting this level of work helped to ensure that efforts are consistent and standardized. SSU found that the advisors who were more experienced and approached their work with an existing philosophy or approach were less likely to be successful than those with less experience, or those who were more adaptable and open to

alternate methods and technological use. Those responsible for managing the academic advising work found that setting specific guidelines for success, holding staff accountable through monitoring their work and output, and incorporating these measures into formal evaluation were key.

Interestingly, advisors at SSU are generally able to describe the specific approach that they have been directed to take with student advising using some common language between them, but there was a sense of hesitancy in describing this work and connecting advising to theoretical language or larger models at work within the history of academic advising. Advisors do agree that a specific, data-informed proactive outreach approach is in place and expected of their advising work. Some respondents expressed concern that this approach removes some of the relationship based, developmental academic advising aspects in working with students. Although SSU's advising approach is deeply rooted in a proactive advising, at least in terms of using data to inform advisor next steps, it is not clear that other hallmarks of proactive advising are in use. These hallmarks include advisor *and* student co-created goal setting, counseling through exploration and choice, and relying on strong relationships between advisor and student. Advisors found that utilization of the SSMS made their jobs more efficient, that they were able to reach more students in a more timely manner, and that the tool helped advisors prioritize which students should be reached out to first. Advisors found value in their role from helping students and from the attention and positive reinforcement that comes from working at an institution that receives many accolades for their work in student success. There was some concern from respondents that the use of the system has made the advising interactions repetitive and somewhat mundane, but that this may just be a part of working with such a large number of

students. Advisors at SSU recommend that more training was needed for continued success in their work.

Chapter 5: Midwest State University

Midwest State University (MSU) is a large, public land-grant institution. Midwest State boasts several nationally ranked programs, is listed as the 2017 Fiske Guide to Colleges Best Buy School (Midwest State University, 2017a) and is a member of the Association of American Universities. MSU was chosen as a case for their recent implementation of the EAB SSMS and decentralized advising structure. This chapter will explain the implementation process of the EAB SSMS at Midwest State and outline the perceptions of administrators and advisors.

Implementation

The first goal of Midwest State University's strategic plan calls for improvement to graduation and retention rates:

> Continuously increase retention and graduation rates for all students while closing the gaps in student success (as measured by retention and graduation rates) between student sub-populations (e.g., race/ethnicity, income, first generation, nationality, ability, gender, and veterans) (Midwest State University, 2017b).

With the strategic plan as a guide, MSU began the implementation process of the EAB's SSMS in 2015. The then Provost had made contact with the President of Southern State University and was interested in implementing the tool based on SSU's success. Some of the key leaders of MSU have engineering backgrounds and liked the idea of looking at data and using data to improve student success, perhaps more systematically across the University (Deb, 2017). The goals in the current and previous strategic plans have called for an effort to close the gap between 'majority and minority students' (language adopted from the Board of Regents) but previous efforts had not made an impact. EAB representatives came to campus and talked with leaders about the platform and future possibilities. They did not explore any other vendors,

which is contrary to standard operation at Midwest State. The university had previous connections with EAB, including membership in nearly all of their research forums, and saw this as a new feature to add to what they were already doing. After the decision to purchase and implement EAB's tool, university leadership established a group of student services directors and the co-chairs of an existing on campus leadership committee. Through this stakeholder group, information was shared to the campus advising community and the leadership sought out volunteers to serve as pilot departments. During this early stage, there was some discussion of the desired outcomes for the implementation of this tool, but MSU set these outcomes aside when those involved with the implementation realized that the institution would also need to modify business practices to implement the tool. These business practices included advising processes and procedures, and in some cases required that the university find a common method where several previously existed. Realizing the shear number of these decisions to be made, administrators made identifying and aligning these practices their primary initial outcome to be met (Deb, 2017).

I interviewed the Director for Undergraduate Programs and Academic Quality, two student service directors, and the University Academic Advising Coordinator to better understand the SSMS implementation process. Deb, the Director for Undergraduate Programs and Academic Quality shared that the student services directors and advisors were excited about what the SSMS could provide on their campus at the beginning of the implementation. However, there was some early pushback (and continues to be some) on the level of risk of not graduating assigned to individual students by using EAB's predictive model. The SSMS assigns each student risk level for not graduating within their current major of choice where green indicates that a student is low risk, yellow indicates that a student is at moderate risk, and red

indicates that a student is at high risk. These levels are based upon the milestones and academic indicators set up during implementation:

> Where we got pushback, and we are still pushing on EAB, is there is some skepticism on who is coded red, yellow, and green for risk level. I would say people like the concept. It validates for them what they know and a lot of the more experienced advisors say, 'I know'. But for a brand new advisor...you hire a new advisor and they don't have the last 15 years of experiences working in that major and know the nuances. Where our critique comes from, and still continues to be, is why are the students identified at a certain risk level [green] yet they are on probation, they had less than a 2.0 last semester -- it doesn't matter that their high school GPA is a 4.0. So I think the validity of the model has been questioned more than having the predictive model. But as we talk through, no predictive model is 100%. We went through and asked who had the wrong risk level – 400 students out of 29,000 undergraduates, 400 are coded wrong. Percentage wise, it is doing a decent job, you just have to get yourself over the fact that it is not going to be perfect (Deb, 2017).

As Midwest State has a decentralized advising system, ranging from all professional staff advisors in a department or college to all faculty advisors, Bridget's role as University Academic Advising Coordinator is critical. Bridget was charged with gaining buy-in for the tool across campus, helping the pilot departments to get up and running and providing ongoing training for the tool in addition to serving as the main point of contact for EAB (Bridget, 2017). According to a representative at EAB, Midwest State followed the "typical" implementation protocol by selecting pilot departments, providing training and recommendations for usage to these departments and then measuring the overall success in these areas. As the SSMS was more fully

developed at the time of implementation at MSU, the pilot departments began with the functionality available at the time including risk assessment of each students, ability to set and monitor watch lists for students of concern, a shared notes feature, and in the second phase of the pilot, the ability to schedule student appointments and conduct email campaigns through the tool.

Advising Administrators Perceived Impacts to Advising

At MSU, students had very little knowledge, if any, of the SSMS system. It was only used as a background tool, and the very limited knowledge that a student may have comes from their ability to schedule appointments online. Deb shared that from the student perspective, things are just easier:

> There have been some campus news articles, if students looked at the website, and looked at the news, we have talked about the use of predictive analytics. We have talked about the platform, but what students know? Everybody…can schedule an appointment with their advisor now. I mean they see their use side of things, they know the system is there, they see EAB on it, but that is about what they know about it. It is a scheduling tool; it makes their life easier, they are happy. The whole rest of it, they don't care, they don't know what advisors were doing before. They just want to see their advisor, get their questions answered and be out of there. So I don't think it has been a conscious decision not to inform them more about it. I don't think they are the target audience for understanding why we are doing it. That is more selling to the staff (Deb, 2017).

At Midwest State, there wasn't one single advising system in use across the entire institution prior to EAB, although there were some departments and colleges using their own online appointment or notes tracking system. Because there was no centralized system, the implementation of the SSMS provided an opportunity for leadership to make some decisions

about very basic advising functionality, such as creating paperless notes on an advising meeting, an appointment scheduling function and also provided advisors better access to tracking exactly which students they were assigned to. Heather, a departmental student services director talked about the gap that existed in advising technology:

> The initial reason that our administration pursued this was the data analytics and the idea of departments, advisors and so forth using the data analytics to improve student success. However, once we bought in to the system what became quickly apparent, which sort of all of us in the trenches already have known for a while, was that there hasn't been a standard way of doing things across colleges or the university. Particularly when it came to keeping advising notes on students. When that became apparent, suddenly there was this realization that the data analytics were great, but the advising platform itself was fulfilling a gap that some people didn't even know existed. So what I mean by that is we suddenly now had the ability to take central notes on students and the ability to share those across different people who would touch those students in a student success area. So, that really became the driving force for the implementation phase. We didn't know until we had it in hand that we didn't know what we were missing (Heather, 2016).

As there had not yet been any system like this before, it was quickly discovered that central coordination was critical to keep the effort moving forward. The University Academic Advising Coordinator position had been previously created to provide some coordination on the training and professional development of academic advisors, but was quickly consumed with tool implementation duties. All four of the administrators interviewed agree that this position was necessary to coordinate and follow up with the advising departments on a decentralized campus. Bridget explained about how the duties of her role quickly shifted:

> Part of what my job was created for was to sort of define, or maybe document, or maybe even lean towards a unified way of doing advising. But with all of the EAB stuff, campus training and developing a campus wide advising manual has kind of fallen off to make the system click (Bridget, 2017).

All four of the administrators responded that there is no common approach or model to academic advising on MSU's campus. There are some department-wide or college-wide approaches, but even that is not consistently applied across all departments or colleges. Jessica, a college student services director, explained that there are some shared values, but not a common approach:

> I think that maybe there are some shared values in terms of student success, in terms of student access, but no I don't think we had, and still don't have a general, complete agreement on approach to academic advising (Jessica, 2017).

Three administrators do see some movement to a few centrally shared ideas with the implementation of the EAB SSMC tools. Jessica shared that university-wide advising leadership committee would soon review a draft of the expectations for academic advisors:

> Our recently retired Associate Provost, one of the things he did before he retired was to finish the draft of the expectations for academic advisors, which does include taking notes, utilizing the tools, etc. There are three big bullet points as a part of that. The advising committee needs to add its voice and blessings to this, but it does set some campus-wide expectations for use, and for documenting student interactions with advisors. And it begins to put us on the path we need to be on (Jessica, 2017).

When asked, both of the student services directors shared that the advisors most successful with the pilot phase are those who are newer to advising or are have less experience

with advising and are comfortable using technology. The coordinator shared that in her experience working with the pilot departments advisors with less experience and those who were more technology savvy advisors have participated more. In addition, Heather, student services director, shared that they have found that advisors who are flexible and adaptable are more successful and more easily buy in to the system. In one of the colleges at MSU, hiring has shifted slightly to include candidates who have data management experience. Heather explained how she has modified her hiring protocol:

> I think the skill set that we look for now when we are hiring is a slightly different skill set than I looked for 10-15 years ago. I now look for someone who has experience managing data. And experience understanding and making decisions based on data. That was not in my top 5-6 skills 15 years ago. I am still going to put commitment to students, communication skills at the very top, but I have added that additional layer. I think that experience may shift me toward a different demographic of person because they have had that training more than someone who as been here longer and didn't have to have that credential or that experience to get the job (Heather, 2016).

Training was a very important part of the SSMS pilot. Bridget was primarily responsible for providing this training across departments. Each of the pilot departments had a liaison to work closely with Bridget and this worked to embed someone with more expertise on the tool to share with other advisors in the department. All four of the Midwest State administrators and student service directors interviewed agree that use of the analytic tools are not a part of any formal evaluation system. Heather did explain that while there was no formal mandate, she set an expectation that as part of the pilot process her staff would use the notes and scheduling functions:

> I just told my staff you will take notes on all of your students, we were the first to pilot the scheduling program, that was another – I'm not a micromanager, but I said we are using this scheduling system, non-negotiable. We were all in for both aspects. Individual advisors could then determine how they were going to make lists or not, they could choose to do campaigns or not, I didn't force anyone to use that piece of it (Heather, 2016).

Administrators and advising directors were asked about the highlights and challenges of their implementation with the EAB SSMS. All four of the administrators found that basic advising functions such as online scheduling, shared notes, and providing advisors access to data had filled a large gap on the MSU campus. Deb explains that advisor access to data was very limited in the past and the simple query functions of the SSMS proved to be invaluable:

> The whole idea of advisors being able to query and make a list of students, our current system they can't do it. They can see a static list of their advisees and that is it. They can't take that and match it against anything else to do anything proactive. So that is something advisors like. They can identify students who would fit a certain group on their own, not calling over to IT or the Registrar's Office and paying $25, being able to search and query, here is a targeted email, that was the best thing (Deb, 2017).

Bridget described the functions within the EAB SSMS system as increasing power and capacity of advisors, and student services director Jessica echoed this saying:

> It puts advisors much closer to the data than they have ever been. We have always had to ask for this and now it is at the other end of your keyboard. What are you going to wonder about as an individual advisor? And what do you do with that? I am really hoping this will spark some really creative retention conversations (Jessica, 2017).

Some aspects of the implementation, however, presented challenges. Despite the fact that MSU piloted the two separate areas of functionality of the SSMS with the same departments, they still experienced vendor related challenges very late in the process. Deb characterized the largest challenges as problems with functionality and reliability of the tool itself:

> We have had a much more difficult time having a reliable product than we would have anticipated. I was talking to IT and we were saying, maybe we shouldn't have been an early adopter of the…platform. We still have stuff that doesn't work right. It has been one little glitch after another, some not so little. I knew there would be technology glitches, but we had more than we anticipated (Deb, 2017).

Bridget, as the front line of communication between EAB and the advisors in pilot departments, felt the impact of some of the functionality not working as it should and worried about buy-in:

> There are things within the system itself that EAB said would work, but it doesn't. Which is part of using a software package that is undergoing improvement all of the time. That has been tough, because if something stops working at the wrong time, it can massively impact buy in (Bridget, 2017).

Beyond challenges related to the reliability of the tool, all administrators and student services directors also noted challenges with resistance to change. Beyond resistance to learning something new, Heather noted that she also experienced resistance to the shared notes feature:

> It really surprised me how challenging it has been to get advisor buy in to putting their notes in the system. I was really surprised at the feeling from advisors of not wanting anyone to see the notes they are making for a student. That has been a challenge and created several discussions of personal information left and not wanting others to see that (Heather, 2016).

Academic advising requires that advisors are adept at using several different systems to meet students' needs. In addition to the SSMS, advisors are often using the academic catalog, schedule of course offerings, a degree audit system, and the student information system in a single appointment. Jessica found that some advisors resist using EAB because it is another advising tool on a long list of tools to use as an academic advisor:

> In several of the meetings in which I have been involved in I have said advisors cannot just keep being given new tools for our tool box. We have to say this is the priority order. If EAB is the priority I want people to say 'EAB is the most important tool in our tool box other than your native instincts so make sure you use that'. We haven't really gotten to that place, but I do worry about well-meaning administrators saying 'Let's offer this to advisors, and offer this to advisors'. I don't have that much time to use every single tool. And I still find value in just being able to talk to somebody (Jessica, 2017).

Bridget and Deb both noted that the faculty advising model that exists in some pockets of the institution created some challenges. Not because of tool functionality, but simply because the role of a faculty advisor is different than a non-faculty advisor and the capacity for taking on a new tool is different as well. Both described that the EAB tool required some economy of scale in order to be most effective (see future research considerations).

Looking forward, the administrators and student services directors at MSU anticipated that they will shift toward some basic outcomes assessment related to utilization and moving towards data informed conversations and decisions. Deb described some of the long term plans for the outcomes of the SSMS:

> As far as success factors and student success metrics, are we closing the gap, are we seeing a change, what types of changes are we seeing? We don't know what they will be.

> Will people be better at getting and staying in the right majors? We haven't started measuring those variables, we have brainstormed, but we will have to start to look at these again (Deb, 2017).

Advisors Perceived Impact to Advising

I interviewed five academic advisors from various pilot departments at Midwest State University. In doing so, I was interested in better understanding the pilot and implementation experience from their perspective. When asked to describe their personal advising philosophy (an approach, model, or theory that they use to inform their academic advising), all MSU advisors provided rich descriptions without any hesitation and many pointed to advising theory as the frame they use for their work. Sally, an advisor with over 15 years of experience, described how the concept of 'challenge and support' has informed her work:

> The literature has always talked about challenge and support, and that's certainly the attitude that we try to develop with advisors in our department. We've always had the attitude that we want to teach students to be as self-sufficient as possible, push them where we need to, support them where we need to, and help them be as successful as they can, so that the old standby student development theory about challenge and support is, certainly, we look at it. I always am sending personal emails when they make the dean's list or sending them, 'Oh gosh, I'm sure you were as disappointed in your grades as I was' when they struggle. Advising has to be personal if it's going to be important to the student. They've got to feel like it's worth their time to meet with me and answer my emails and to reach out to me, I will try to help them with whatever's going on, and if it's not personal, they won't make that connection (Sally, 2017).

Kevin described his philosophy with similar language:

> I really like to find out what the student's goals are. If they don't have any goals then we talk about how to set some goals, figure out what there career interests are, and I try to help them get to that point. I see advising as lots of things, it is teaching, it is mentoring, it is goal setting, sometimes you celebrate getting a C- and achieving the minimum grade needed, and sometimes you help a student process through and cry over getting a B+ in a class. It is kind of meeting the students where they are at and talking about how they can get to that next step no matter what that next step is (Kevin, 2017).

Alexis didn't specifically mention challenge and support, but described her work as holistic and focuses her personal approach on the student to advisor relationship:

> I would describe myself as a relational advisor, and so I think I take a pretty holistic approach. I want to know how you are doing as a person and definitely try to have students share their stories with me. I definitely engage in a lot of question-asking and things that I think will build rapport with the student, based on the belief that the more that they trust me, the more that they feel like we know one another, the more likely they will be to seek assistance from me over time (Alexis, 2017).

Rebecca, too, described the personal relationship aspects of advising, and noted that the prescriptive approach is something she intentionally shies away from:

> I would say I am very much of a developmental or appreciative [advisor]. I don't know much about those theories but from conversations I am very much guiding the student, they figure out their interests and I help them explore. I like the developmental approach, but appreciating what they do and giving them feedback. I am definitely not a prescriptive advisor. I am not trying to get them to come in, I would rather they would take charge of their own education (Rebecca, 2017).

When asked about a common approach or model of advising throughout the entire MSU advising community, all five advisors agreed that as a decentralized campus, there is not one way of advising at work. Four of the five advisors did feel that there was some common approach at work within their own department, but that there was still room for individual preferences. Amanda described some basic things that she and her colleagues have in common:

> We have individual differences, we're each encouraged to have our own philosophy and our own style, but we are also very much a team, in that we approach students in the same way. We try to be very approachable for the students and make sure that we have that open communication with them, we also have a real intrusive advising practice, so for students that are placed below Calculus I in our college, they have to come in and meet with us three times before they come in for their registration appointment. It is kind of like an intervention program we have…to make sure that they're doing okay in their classes, because math skills are so necessary (Amanda, 2017).

Advisors were also asked about how the use of the SSMS had impacted their role. Midwest State did not have any paperless advising system in place before the purchase of the SSMS. At the time that they signed on, EAB was a risk analysis tool with some basic advising features such as a central advising record and shared notes. During MSU's pilot phase, EAB released the scheduling components of their system, and so MSU rolled from one pilot to the next without larger implementation. Advisors shared the significant benefits that come from a tool that provides information sharing, online scheduling for students, tracking for student information (especially for recall purposes) and doing targeted outreach. Kevin found these basic tools to have made a big impact to the ease of doing his job:

> The note taking feature and being able to reach notes from other people across campus has made it so much easier. Consistency for the students has been really nice because I can look back and say 'You have been talking with this advisor about this kind of career path', and I don't have to rehash that conversation or make them have it again. Or, if they have had a big life event and felt comfortable telling their advisor and it is in the notes I can just tell them I am aware of that and they don't have to relive that experience (Kevin, 2017).

Three of the advisors liked that the SSMS allowed them to look back at information they, or another advisor, had left. Sally found that the shared notes helped her to recall information about students and then reach out to them again with that personal information:

> We try really hard to keep good notes on the students and that allows us then to write personal notes back again – 'Are you still thinking about studying abroad next year?'; 'Did you save those classes back that we talked about?'; or 'I thought you wanted to take those classes when you were in Australia but I found them on your fall schedule, did you change your mind about studying abroad?' They were just notes in their folders before, in their academic folders, and so now they're right on there, so when they come in for appointments and I call up their record, stuff I want to remember is right there. So I feel like I am more organized in the help that I can give them (Sally, 2017).

Rebecca didn't find that using EAB has changed her one-on-one interaction, but found the online scheduling beneficial:

> I think in a way it validates what I want to do. I want students to take charge and at least the scheduling system allows them to make their appointments on their own. It is easier for them now, and they can see when their advisor is available. I don't know that reports

> and notes have changed how I advise. It is kind of neat to see if someone else has met with them and the left notes. It helps me prepare, but it hasn't changed how I work with students one-on-one (Rebecca, 2017).

In addition to the basic advising functionality, two advisors expressed great value for their ability to gain access to student data in a way that was not previously available. Kevin explained how the success markers in the system have been beneficial in his efforts:

> I personally find some of the analytic tools to be really interesting. We had good conversations in our group looking at some of the historical data and graduation rates and finding some key courses. We kind of knew it in the back of our mind, but we had the data to see if a student gets a C in this class instead of a B their graduation rate drops 20%. So for us, it was nice to see that. It makes having those conversations about the importance of some of those success markers -- we can talk to those students a little earlier (Kevin, 2017).

I asked the academic advisors about the value that they feel in their position. Across the board, all advisors find value from helping students. Alexis felt a great deal of value from helping both students and colleagues and believes that EAB has increased this:

> I think the things that make me feel value are the things that can only be accomplished by interacting with me, whether that is face to face or via email. It's touch points where I'm able to be of service and help to a student or a colleague. I think that there have been instances where I have been able to troubleshoot with a coworker about how to function within the system, but I also think that the way I advise translates into the way that I take notes and so I am assuming from that that other advisors who might receive my students when they move into that major are benefitting from it. I'm being seen as a valuable part

> of the process and moving that student toward their major because they can see what the answers to the questions I asked were from the notes, so I think that is helpful (Alexis, 2017).

Amanda agreed that EAB has strengthened the value that she feels in her role:

> I feel valued when the students know that they can come to me, that I'm there for them, that I'm going to be someone that they can trust, can talk to. I think one way EAB has helped me with that, just building rapport and relationships with students. I am able to go in and refresh my memory and read the reports and notes that I keep about them so when they come in, I know their first name, I know their story, it's not like I have to have them remind me of anything (Amanda, 2017).

Kevin felt that EAB has provided some credibility to the work of advising:

> I think it brings up our status a little bit because we can point to data instead of anecdotal information that we *know* about our students or courses. It gives a bit more credibility and information when we share with our faculty. I think it is doing that for advisors within our own department but also elevating our conversations across campus. We already know this, but we have the data to back it up (Kevin, 2017).

To echo the surprise that Heather, student services director, found regarding online notes, two advisors at MSU shared their concerns about student confidentiality in a shared tool (especially beyond academic advisors). Sally explained where some of these concerns come from:

> We're really nervous about some confidentiality issues, and nobody's quite sure how all that's going to play out since other people can see our notes and things. When we make referrals…everybody has access to things unless you hide it just for yourself, it makes us nervous. We have to be so much more careful and cagey about how we write things…we

> lose some of the context and the content in terms of how urgent is this situation…because too many people have their fingers in the pie now (Sally, 2017).

In addition, there was some frustration with a tool that is constantly changing and inaccuracies are often found. Amanda shared her experience with this:

> The two main disadvantages I would say is one, the data collection tool and search feature, for some reason it seems like it's never completely accurate and we have to keep having to go back to EAB and kind of ask questions that maybe hadn't crossed their minds before. The search feature is, we're a little cautious about it sometimes, we use it more like a guiding tool than the end all be all. The other issue I've noticed, it does seem like the program keeps evolving. It's definitely a big part of Bridget's job. It seems like she is constantly getting feedback from everyone about things that need to be changed or fixed. It is good that we have her and she's got that connection to EAB where we can get things, the communication is pretty streamlined, but it seems like to me, by now the system should be operating, we shouldn't have to be trying to fix it as much (Amanda, 2017).

Kevin agreed that Bridget's role has been critical to the implementation effort:

> It requires a lot of ongoing training and development and conversations. And sharing of best practices. And that is why I am glad we have someone like Bridget who can compile those and bring people together to talk about it. In a decentralized advising space that is Midwest State, someone could be using it for really cool things and never tell anyone about it. And we are looking for those types of solutions so we need to share them (Kevin, 2017).

In the final stages of our interview, I asked each of the advisors what they would change if they were in charge of all of advising at MSU. Two advisors noted more training, one mentioned more professional development, and two wanted to see some consistency and centralization in approach to advising. Both Amanda and Rebecca suggested that more consistency would come from a more common way of doing advising. Alexis agreed and indicated that this would create more buy in for assessing advising, if there was a basic framework for approaching it. Kevin said more training is key for the future of advising at MSU:

> One of the main reasons that Bridget's position was developed was to centralize advisor development and advisor training. There is no advisor training. Some people don't get trained at all, and some people go through a week or more of intense training. It really depends on the department or college. I was on a committee charged with designing an advisor training handbook, and advisor training, an online component…we had a discussion and then EAB happened and nothing has moved forward because EAB has been so big (Kevin, 2017).

Summary

Midwest State University began their implementation of the EAB SSMS system several years after Southern State University and after they saw some of the successes of this institution. Although still considered an early adopter, the EAB system had started to grow and add functionality by the time that MSU signed on. MSU began the project without a formal evaluation of other IPAS vendors, but shared the decision to implement through formal channels such as the campus advising leadership groups. Once piloting and implementation began, there were some signals of resistance to change on the MSU campus including push back about the

predictive model used by EAB to determine risk factor and the ability to implement such a tool on a decentralized campus. It also became clear at this point that MSU's lack of a centralized record keeping system for student information and advising notes would impact the implementation process and became a large incentive for gaining campus buy-in. As expected from a decentralized advising system with varied staffing models, there was no university-wide common approach to academic advising, but all academic advisors were able to provide rich descriptions of their personal advising approach and used language connected to developmental advising. Administrators at MSU found, similar to SSU, advisors with more experience and those who may be less open to change especially related to technology were more likely to struggle. Although MSU has not set any formal evaluation measures for using the EAB SSMS system, there is some general expectation that the tool will be used within a particular unit and anticipation that the broader campus advising leadership will push for further mandates of use moving forward. Administrators did find that some slight modifications to their hiring and training protocols are needed to ensure success with the system. Administrators found many positive benefits from using a shared system that connects academic advisors to student data in an on-demand manner, but were frustrated at times with accuracy and reliability of the tool function and interactions with the vendor and implementation process.

Academic advisors at MSU agreed that there was not a shared advising approach across the university, but several mentioned some common approaches within their advising unit, and the responses to personal advising approach reveal that in general advisors at MSU utilize broad developmental advising practices. Advisors have found that EAB has made modifications to the way that students schedule appointments and respond to advisor outreach, and have improved their ability to access student information especially interactions with other advisors, but do not

find that the tool has caused any advising approach differences. Some advisors have found benefit to or are looking forward to utilizing the data informed predictions to intervene differently with students. Advisors at MSU find value in working with students, assisting advising colleagues, and indicate that MSU's investment in a centralized advising tool demonstrates the value that academic advising holds on their campus. Advisors are seeking more training, more professional development, and in some cases, a more streamlined and consistent approach to academic advising university-wide.

Chapter 6: Discussion, Conclusions and Implications for Practice

The purpose of this qualitative study was to examine the ways in which academic advisors and advising administrators at two University Innovation Alliance institutions perceive changes to academic advising on their campus after implementation of the Education Advisory Board's Student Success Management System. The experiences shared by the 19 study participants demonstrated the challenge and focus required to successfully implement this tool at a large, public, doctoral degree-granting institution and highlight the intended and unintended outcomes that may emerge.

I sought to answer the following research questions:

1. What led to the implementation of the EAB SSMS and what steps did the institution follow to ensure a successful implementation?
2. How did the implementation process of the EAB SSMS impact academic advisors' and administrator's work?
3. How has implementation of the EAB SSMS affected advising approach/philosophy?

In this chapter, I will compare the cases of this study, summarize the findings, make recommendations for institutions considering implementation, offer four additional conclusions of the study, and make recommendations for practice. Additionally, I will outline two areas for future research.

Southern State University and Midwest State University both started the implementation process as a result of their strategic efforts to improve student success measures. In each of their strategic plans, and in those of many other institutions nation-wide (Tyton Partners, 2016), academic advising is viewed as an important retention tool. Analyzing the data from each

institution related to the implementation experience and integration of the SSMS into advising work reveals some expected similarities and some surprising differences. This section will outline these by focusing first on the implementation of the EAB SSMS, explaining the impacts to advising work, and reviewing academic advising approaches.

EAB SSMS Implementation

As outlined in the cases of Southern State University and Midwest State University, the primary factor leading to implementation comes from an interest in increasing student success metrics and meeting the retention and graduation goals of an institution. Each institution made the decision to implement the system as a result of their strategic plan and through the decision of their university leaders. This is not unlike other institutions that decide to implement an IPAS system (EDUCAUSE Learning Initiative, 2014), in fact some university administrators expect that implementation of such a system may be the 'silver bullet' to their success (Tyson, 2014; Tyton Partners, 2015a). Each institution's leadership at the president and provost level shared the information about the implementation through connecting with advising area leaders, but SSU also centralized the advising function simultaneously and instituted mandates for how advising and tool use would be executed. The implementation experience of the two institutions though, was vastly different based on the timing, tool modifications, and overall experience in working with the vendor. Midwest State University administrators expressed concern for the challenges they faced, particularly in reliability of function of the tool and accuracy of the information it presented. These concerns led them to worry about overall buy-in for the project and advisors expressed similar concerns. At Southern State University, some respondents mentioned the ever-evolving nature of the EAB SSMS, but did not cite specific concerns about buy-in or vendor related challenges that impacted their progress.

Southern State and Midwest State used very different approaches to their implementation. SSU created a strong place for ownership of the implementation by centralizing their advising system. MSU kept their decentralized advising structure in place, but did add elements of centralization through a coordinator position and leveraging the power of departmental liaisons to keep the effort moving forward. Clear and consistent ownership for academic advising outcomes has been cited as a best practice by the Education Advisory Board and through the national survey of advising administrators (Attis et al., 2012; Education Advisory Board, 2009, 2014; Tyton Partners, 2016, 2017a). A representative from EAB responsible for working with campus implementations agreed, sharing that a central project owner and project champions are critical for overall success. In fact, she shared that absence of these key stakeholders is a major red flag for the implementation process and often prompts a strategic level discussion with those who made the decision to purchase. Both institutions relied on the expertise of EAB to set up appropriate milestones and academic indicators to ensure that the tool worked as smoothly as possible.

Although it is clear that the implementation process of SSU and MSU differed, the factors leading up to implementation, the approach used by the institution to share the details of the implementation with university stakeholders, and the attention to the implementation process that is dedicated through EAB and the campus project owners impact the overall success of the initiative. While EAB works hard to ensure success with each project on each campus, they confirm that lack of project ownership, unclear goals for why the product will be implemented, and low levels of communication are all risk factors that will limit the implementation process. Both administrators and advisors at Midwest State noted the importance of a centralized office or

person to spearhead the implementation process and to ensure that the resources needed (training, vendor communication, modification to the tool, etc.) were deployed.

EAB SSMS Impact to Academic Advising

Advising tool functionality. Southern State University and Midwest State University share in some of the most obvious impacts of implementing the EAB SSMS system. At the time of implementation, both institutions lacked a central system for record keeping, sharing of student advising notes, systematic outreach to students and online, student-initiated appointment scheduling. Despite the fact that advisors have been given many tools to execute the functions of their job, such as an academic catalog, a degree audit system, a system for the schedule of classes, the student information system that houses all student record information, etc., gaps in advising tools still remain. In early phases of the software and most certainly with later iterations, the EAB SSMS system was able to meet these significant gaps in basic advising tool functionality. Within the IPAS landscape, there are several tools marketed towards academic advising centers or units that allow for some pieces of this functionality, but often these vendors are not integrated with other campus systems that may be in place such as the student information system, learning management system, early alert system, and any homegrown advising systems allowing for information sharing (Tyton Partners, 2015b, 2017b). With the creation of the Student Success Management System as presented today, EAB is one of a small number of vendors to be able to offer such integration (Venit, 2017).

Impacts to academic advising were observed on both the Southern State University and Midwest State University campuses. Southern State University found consistency, common practice, standardized approaches, trainings and evaluation methods as a result of their decision to implement the EAB SSMS and centralize the advising function. Midwest State University

found improved record keeping, better access to shared student information, increased ease and efficiency in connecting with students through their implementation.

Use of SSMS by advisors. Southern State University, operating in a centralized system, took many more steps to determine the exact approaches, interventions, and record keeping that would be utilized with students and included tools that would allow for managers to monitor the output and progress of academic advisors in meeting these requirements. In addition, SSU set benchmarks that their advisors were expected to reach and reflect their ability to do so in formal evaluations. This demonstrates that the institution values the EAB SSMS system and trusts that the prescribed interventions must be executed to meet institutional goals. The SSMS is not just an advising tool at SSU, it is *the primary tool* and is relied heavily upon for advisors to perform their job duties. Midwest State University did not make such mandates and as such found varying levels of compliance from their pilot departments and varying levels of system buy-in. After implementation, institutional and advising leaders began to ask questions about what parts, if any, will be required for advisor use and considering which advising models allow for such mandated use. Their decentralized structure called for more formal and informal information sharing and training, and required for a single position to act as the point place for determining what aspects of the EAB SSMS are in use and offer benefit. MSU described the SSMS as *an* advising tool and relied much more heavily on advisors knowledge and skills to perform their work and expected the tool to supplement these efforts.

Use with students. Both institutions agreed that the EAB SSMS's predictive capabilities are best suited as a background tool and sharing this information with students may require advanced level knowledge to help students best understand the risk they have been assigned. In fact, EAB modified their first iteration of the predictive analytic dashboard to include a student

view that would allow for the risk colors (red/yellow/green) to be hidden from the student based on feedback from member institutions. As outlined in the case of Midwest State University, this assignment of risk level was a point of contention for buy-in and use of the tool.

Success in using SSMS. Both SSU and MSU found that advisors with less experience and those less married to a specific way of doing academic advising were more successful through the EAB SSMS implementation process. SSU specifically mentioned that hiring advisors that were adaptable, flexible, and not already using a specific advising style were most successful using their approach. While MSU agreed that adaptability and advisor curiosity were key, one advising director mentioned that these characteristics, and experience utilizing data management were necessary attributes *in addition to* communication skills and previous work with and passion for students. Both universities have made subtle shifts in their hiring processes to find candidates who are more comfortable and have experience with utilizing data in a day-to-day manner. Midwest State, however, emphasized that the shifts they have made in finding candidates prepared to find success in leveraging the system is in addition to the traditional skills and experiences that help them to find success in academic advising. Southern State seemed to prefer to hire those brand new to the advising profession and train them to interact with students in the way that they prescribe and with the specific tools that they describe. Beyond hiring, training for use of the EAB SSMS and training for the types of interventions that have the most capacity for impacting student success are critical at each institution. Both institutions recognized that beyond comfort with technology, a willingness to move academic advising beyond "gut instinct" of an advisor and to find ways to streamline advising efforts is also required. However, most institutions wanting to implement the SSMS will not simply want to do away with their most seasoned, experienced and perhaps more technology-adverse advisors

so that an implementation process will be easier. Finding buy in for even long standing advising staff is critical so that the implementation will be successful. The model used at Midwest State, to develop departmental supporters that can create buy-in within their own sphere of influence, seemed like an excellent way to gain trust and interest in the project from more experienced advisors. It is worth noting that while the years of experience for all of the advisors interviewed at Southern State University is less than 5 years, at Midwest State experience ranged from less than 5 years to greater than 15 years, with 4 of the 5 interviewed having over 5 years of advising experience. It may be possible that experience and openness to change is simply a perception of advising administrators and there are other factors at play.

Value in advising role. Academic advisors on both Southern State and Midwest State's campus found value in the role that they fill through providing help and assistance to students. All twelve advisor participants cited the thank you messages received from students, the relationships developed with students and the acts of service that they provide as both motivation and reward to their position. Respondents at both institutions recognize the importance of the financial investment that their institution has made in advising and advising technologies and connect the value they feel to this investment. At Midwest State, one advisor indicated how the EAB SSMS has added value to his role through evidence that his native instincts and gut reactions are valid when working with students. Every advisor interviewed was able to identify at least one way that the EAB tools made their job easier, but at both institutions, advisors asked for more training. As the tool continues to evolve and usage grows, advisors need ongoing opportunities to keep their practice evolving as well.

Summary of impacts. In some cases, implementation of the SSMS impacted the work of advising and leading advising at SSU and MSU by simply asking for streamlining process,

streamlining where information comes from or is housed, or streamlining the way that information would be handled. Given the lack of basic advising tool function, these seem like expected impacts. Broader impacts, such as the evaluation of advisor work through reporting, monitoring, and reviewing output are less expected given the traditionally relationship based approach to academic advising. At many institutions, organized in either a centralized or decentralized manner, the evaluation of advisors is based on student feedback, customer service and communication skills, observation of student interactions, and in some cases the number of students advised each term (Attis et al., 2012; Self, 2013). The move to a more formalized evaluation is a significant impact at SSU and the discussion of ways to make the evaluation more formalized at MSU seems notable.

Advising Approach

When it comes to the approach used within academic advising, Southern State and Midwest State are quite different. When Southern State University centralized their advising function, they also moved to a specific approach of advising that they label proactive advising. Midwest State University, on the other hand, is decentralized and indicated that they had no specific advising approach in place. Academic advisors were asked about their personal advising philosophy and both advisors and administrators were asked about any advising approaches in place at their institution.

Southern State University. Not surprisingly, with the centralization efforts of SSU, administrators were confident in the fact that SSU had a common, proactive advising approach in place. Although describing their personal advising philosophy proved more challenging and few advisors relied upon theory-based phrases to describe their approach, the academic advisors at SSU did describe, in part, a proactive advising approach. The data-informed outreach aspects of

the theory seem deeply rooted in the approach of SSU and advisors are clear on the importance of this. There was not the same clarity on the other proactive advising components, such as advisor and student partnership to explore options and set goals or advisor initiated outreach to form an individual relationship. As such, even when interactions are informed by data and delivered to students in a just in time fashion, if these interactions are based on the record of a student (grade in a course, course enrollment patterns, financial aid ability) and advise an action primarily only considering the data, it follows the prescriptive advising approach. The interactions, outreach, and approaches described by advisors at SSU are best described as prescriptive advising.

Midwest State University. Administrators at Midwest State were fairly confident that there was no common advising approach at work on their campus and that if any similarities were to be found they would be within some individual departmental advising offices. MSU advisors were readily able to describe their personal advising philosophy and many connected their philosophy to a developmental advising approach. Surprisingly, analysis of the responses from MSU reveal that even though there is not a university-wide model in place for the type of advising that should be used, 100% of those interviewed lean on the components of developmental advising. It seems then, although not consciously, that MSU could have an emphasis on developmental advising practices in place across the institution. With evidence pointing towards the use of a developmental approach, MSU differed from SSU in that the tool did not seem to impact the approach in anyway. The SSMS was described as, referred to as, and truly considered just another tool for advisors to use. Advisors talked about advising and students first, and then described the ways in which they used the tool.

Advising approach changes. While use of the EAB SSMS can be made to fit any existing advising structure or model, implementation calls for making institutional-wide decisions about process and requires one point of decision making that lends itself to at least some element of centralization. It does not appear however that the implementation of EAB SSMS calls for an institution to use one advising approach or model over another. Due to the fact that EAB utilizes ten years of historical institutional data in their model that relies on elements of academic performance and incoming characteristics, absence of any other advising model to guide them, use of the tool may encourage advisors to move to a more prescriptive stance on advising by making assumptions about a student's ability to persist in competitive majors or rigorous classes. The heavy focus on the transactions of advising, such as monitoring the last time a student record was reviewed by an advisor, providing reports on the quantity of students emailed or the quantity of students who were marked as on-track for their major, and requiring advisor intervention anytime a student makes a course enrollment change, suggests that this is exactly what has happened with Southern State University. They refer to their proactive approach, indicating the outreach to students based on data informed triggers, but these actions seem prescriptive in nature. However, it is promising that at MSU advisors described their interactions in a developmental way and did not indicate any concern for the EAB SSMS changing their advising methods, only changing their access to student information. This helps to illustrate that an institution with an established advising model in place may simply utilize the SSMS as a tool in the advisor toolbox.

The experiences at Midwest State seem to imply that when an advising model is in place, or at least a commitment from advisors to use developmental advising with students, that the implementation of the EAB SSMS has no significant bearing on the use of or change in advising

approach or philosophy. Given the commitment to developmental advising approach through advising literature and through best practices encouraged by NACADA, this finding seems important for the future of the advising field. SSU seemed to rely most on the execution of specific advising functions and tasks rather than leaning on a theoretical approach. These functions and tasks place great emphasis on reaching out to students in a proactive manner and intervening. SSU refers to this broadly as proactive advising, and the data-informed outreach taken is certainly proactive in approach. However, the other hallmarks of proactive advising – relationship-driven advising that allows for the advisor to better know the students, their interests and abilities and for the advisor and student to co-create academic goals is not as clear. Southern State demonstrates that at some institutions, where advisors do not have formal training in developmental advising, a commitment to this approach, or are less knowledgeable about the various advising approaches available, that advising may be reduced to course enrollments, pre-requisites, tracking of progress towards degree, course withdrawals, and other transactions of advising.

While the research questions of this study suggested that advising approach would be impacted by the use of a tool that is prescriptive in nature, the case studies suggest it is more likely that the tool may influence an approach (such as a proactive, data informed, prescriptive approach) when there is no evidence of a developmental approach in use. Through their reports, white papers, and presentations, EAB praises proactive advising as a best practice. It is beyond the scope of the SSMS to provide a specific advising approach, but the tool itself, absent of an approach is both proactive and prescriptive in nature. The EAB SSMS tool is designed to allow advisors to monitor student progress and intervene in a systematic way when necessary, and each institution in this study utilized the approach or approaches that worked best for their individual

goals. In the case of SSU, advising interactions were prescriptive in approach. In the case of MSU, there was no substantive impact demonstrated.

Implementation Recommendations

As referred to in the review of literature, the pressures of increased accountability and demonstrating the actions taken to lessen the achievement gap are driving much of conversation around academic analytics and IPAS tools such as the EAB SSMS. The predictive analytic pieces of the EAB SSMS catches the attention of those in senior leadership positions, and these are the positions that hold the purchasing power. However, advisors and those on the front line working with students gravitate first towards the gaps that this tool fills for their everyday tasks. In the cases of SSU and MSU, implementation and training became heavily focused on the simple function of advising record keeping and outreach – a central, searchable place to access student information in individual or group form, a notes system that allows for review of any advisors notes and interactions, a system that allows students to schedule advising appointments themselves at a time that their advisor is available, and a mechanism to reach particular students so that advisors can intervene. When the decision to implement the EAB SSMS is made, the institution will be forced to have discussions about and make decisions about how these basic advising functions will be handled. As referenced in the case of Midwest State, these were not discussions that the campus was accustomed to having and it took valuable implementation time to simply get the pilot departments on the same page. As a new school decides to implement the tool, the senior leaders of that school may not be not aware of the gaps in the advising tools, or may want to see the predictive analytic pieces used more heavily. Based on the experiences of the advisors at SSU and MSU, the advisors may agree with the push to use predictive analytics and even find value in predictive capabilities, but it takes a significant amount of time to simply

bring basic advising functions into the fold. This can mean that a pilot and implementation process will be long, and campuses can expect to find hurdles that they will need to overcome.

After the successful implementation at SSU and MSU, both advisors and administrators agreed that the increased consistency, access to student information, information sharing between academic advisors, and efficiency that comes from a tool that houses the information advisors access most is a significant benefit for the EAB SSMS system. Advisors at both Southern State and Midwest State agreed that the system allowed them to streamline their efforts, quickly outreach to students and help with the recall of key information. These benefits provide confidence in the advising efforts that they direct, without worry for how individual differences in how the advisor delivers them impact the overall success. Advisors at Midwest State University noted challenges with a tool that isn't always 100% reliable and concerns for buy-in based on these experiences.

Despite the potential challenges of implementation, giving advisors access to student data, in searchable form, is a positive shift for the field of academic advising. Institutions are increasingly interested in utilizing systems to support the decision-making process for student interventions and the investment by institutions in advising technology is growing (Tyton Partners, 2017b). It seems that both institutions and advisors can benefit from this investment.

Additional Findings

The cases in this study help to explain the reasons each institution implemented the EAB SSMS, the impacts to the advising work at each institution, and the shift to a proactive advising approach, in part, at SSU. There was no evidence of any advising approach change at MSU. Beyond addressing these research questions, the cases also revealed four additional findings that are useful for leaders considering implementation of the EAB SSMS.

Despite many advising tools, there are still holes. Academic advisors have a myriad of advising tools at their disposal. Tools such as an academic catalog, the schedule of classes, the student information system, degree audit system and possibly a secondary repository of degree requirements are critical to the work and daily interaction of an academic advisor. However, in the case of Southern State University and Midwest State University, gaps still existed in basic advising functionality such as one central record of student information, courses, grades, etc.; a repository to house advising notes that is shared across the advising community; an online scheduling tool that lets students initiate and schedule their own appointments, even when institutions are closed for business; and a searchable student database that allows advisors to quickly find individual or groups of students that meet a certain criteria in an on demand way. The EAB platform has filled these holes for SSU and MSU. Advisor function, capacity, and outreach have been improved as a result. There may always be a concern of "too many tools" or "just another advising tool", but ensuring that an institution meets a very basic standard of access to student data is critical for advisors to thrive in their role.

Resistance to change can impact implementation. As demonstrated by each of the site institutions, resistance to change is a critical element of consideration with any new initiative. All of those tasked with responsibility for implementing the system, and half of the advisors indicated that change is hard. Even for those that see the value, changing is a challenging process. Regardless of the value of the tool, or the gaps that it can help to fill for academic advisors, the experience of the two site institutions demonstrates that an institution may encounter resistance to change. When beginning the study, I thought that the cases would demonstrate that the relatively short tenure of senior leaders who make the decisions to buy and implement things like the SSMS compared to the much longer tenure of most front line staff

leads to more resistance and less buy-in. However, in the case of SSU, most participants were new to the university as a result of hiring so many new advisors, so there was no long-standing way of doing things for these advisors. In the case of MSU, there was some push back on the validity of the model, but most advisors found value in the EAB SSMS, because they had no previous tool to meet their needs. If an institution considering SSMS implementation has staff married to specific tools or staff who do not find the SSMS to improve the advising tool functionality already in place, resistance may be increased. When considering staff who have been in roles for a great length of time, and perhaps have seen a few different university leaders come in with new ideas and initiatives, it is possible that staff will approach an implementation with an attitude that they can stay in the status quo longer than the leader will be in his or her position (Cohen & March, 1991).

Whether by mandate, or asking for volunteers, gaining initial buy-in and selecting key individuals to keep moving the process forward is necessary. In the case of Southern State, this came from the assistant directors, those responsible for managing the day-to-day work of academic advisors. Their strong understanding of both the work of academic advising and the functionality of the tool proved invaluable to the success of their institution. Southern State also hired over forty new advisors at the point of implementation of the SSMS, and the advising administrators could hire for use of and acceptance of the SSMS. Both assistant directors indicated that this openness was a job requirement and that there had been some advisors married to a specific approach or way of advising that were not successful in their role long-term. Midwest State University employed a strategy where one central coordinator of the process selected several in-department liaisons with which to work closely and leveraged the relationships of those liaisons within their home department to find greater buy-in for the

implementation. As a former academic advisor, the coordinator demonstrated that a strong understanding of academic advising work is needed for an efficient process. The majority of advisor participants at MSU had over five years of advising experience and while the advising directors indicated that newer, less experienced advisors were more successful, the participants of this study demonstrated that time of service may not be a reliable indicator at Midwest State.

Centralization has a role. Although Southern State University moved to a centralized, professional staff only advising model and Midwest State University continued forward with their decentralized, mixed model of advising, both institutions employed some centralization to the implementation process. One can glean from the experiences of both institutions that some elements of the implementation require a single point of decision and purview over the process. The SSU assistant directors were not the primary decision makers for purchasing or initiating the implementation of the tool. But their efforts at coordinating the process, working directly with the vendor, receiving and sharing feedback between the advisors and vendor proved to be highly successful. Without the work of the MSU coordinator, one can speculate that the implementation efforts might have fallen by the wayside in the day-to-day work of student success. An EAB representative confirmed that this central point person is critical, regardless of the way that academic advising is organized. MSU started with seven pilot departments, but in the end, the large majority of participation came from only four departments. Administrators at Midwest State attribute this to the nature of the voluntary pilot process.

Midwest State demonstrates that it is not critical to have a centralized advising model in place to have a successful implementation, but there must be dedicated resources in place for *central coordination and ownership* of the process. EDUCAUSE, the professional association for IT and technology leaders in higher education, wrote an IPAS implementation handbook and

although it makes extensive implementation team recommendations, it does not address the importance of a central functional user to coordinate efforts and work directly with the vendor (Brooks, 2014).

Use of SSMS may lead to prescriptive advising. As a director of an advising center, I am responsible for determining the advising approach that my unit will utilize and assessing the efforts of our unit with that approach in mind. Much of the literature review and data analysis of this study focused on developmental and prescriptive advising approaches and considered the ways in which proactive advising has emerged as a part of the developmental advising approach. At Southern State University, administrators were clear about the advising approaches they use, and how these inform the day-to-day interactions that advisors have with students. They made a choice to adopt proactive advising – although only in part it seems – and the student outcome gains that the institution has seen is attributed to this approach. Advisors at SSU, though, had less conviction about the advising model and instead described the ways they reached out to students. At Midwest State University, the administrators were less clear that there was a specific advising model in place, and advisors agreed. But all of the advisor participants at MSU described developmental advising and emphasized the relationship aspects of academic advising. It may be that while EAB widely cites proactive advising as the best way to impact student success, use of the tool could push advisors without strong convictions for developmental advising to be prescriptive (or more prescriptive) in approach. This may be unintentional, but as the tool highlights any areas of risk, and even recommends a different course of action, it could be easy for an advisor to slip into a habit of considering the information presented and prescribing advice to the student as a result of the information. As outlined extensively in the literature review, it is natural for an advisor to consider the information they have access to.

However, a developmental advisor considers this as *one component* of the student's future, and leans on the relationship with the student to *co-create a plan* to move forward. The SSMS does not make these pieces intuitive to its use.

Summary of Cases

Both Southern State and Midwest State began the implementation process of the EAB SSMS as a strategic decision from university leaders to improve student success metrics, not unlike the large number of other institutions that have worked with EAB and other IPAS vendors (Education Advisory Board, 2016; Kraft-Terry & Kau, 2016). Both institutions relied on a centralized project owner to keep the implementation effort moving forward, but approached ownership for academic advising in different ways. Both institutions found that the EAB SSMS filled a significant advising tool gaps on their campus and improved shared access to information for academic advisors. Both SSU and MSU found that less seasoned and less entrenched academic advisors are most successful with the system and SSU found that through hiring such a large number of advisors at one time allowed them to create a culture of how the tool would be used and evaluated. Interviews revealed that both institutions have some commonality in advising approach, SSU's as a part of their centralization and standardization efforts and MSU's unintended and not expected from the implementation of the EAB SSMS system. At both Southern State and Midwest State, advisors feel value in their role, primarily through their interactions with students.

There were differences in the experiences of the two site institutions, however. The reliability and accuracy of the vendor impacted the implementation experience of MSU, and at one point created concerns about the decision to become an early adopter of the system. Respondents at both institutions commented on the ever-evolving nature of the SSMS, but this

impacted the success and buy-in at times on the MSU campus. Southern State decided to not only implement the tool but also mandate its use and provide formalized evaluations and metrics for how and when academic advisors would use it. This practice was not found at Midwest State, although there was some agreement that future mandated use of some tool components may be necessary.

Recommendations

As institutions continue to rely on the work of academic advising to help support their strategic goals in student success, retention and graduation, it is important that senior institutional leadership differentiate the gain that comes from the academic advising relationship from the tools that academic advisors use. As these same leaders face an increasingly challenging budgetary outlook, it is imperative that a balance is found between the cost of system deployment and what those systems can reasonably deliver without changes to the human resources of an institution. If academic advising is necessary in supporting retention and graduation goals, adequate resources – both technology and the development of the advising community – must be considered.

Because many players are invested in the future of advising technology, the following recommendations are offered for senior institutional leaders and advising administrators. The National Academic Advising Association (NACADA) is the primary organization providing the resources and training for the academic advising field. As such, recommendations are also offered for NACADA and its members.

Recommendations for senior institutional leaders. As the primary decision maker for your institution, you are relied upon not only for your leadership, but also for deploying resources that can truly make an impact for faculty, staff and students. When considering

implementation of the EAB SSMS, it is critical to consider the existing advising tool functionality on your campus before making any decisions. Seek to understand what gaps exist in functionality, if any, before researching the best academic analytic, or basic advising function, tool to implement. Although the president of MSU chose the SSMS for the predictive analytic components, end-users focused on the gaps in advising tools that it filled. Ask academic advisors about their experiences with tools already in place and ask them to identify what they may need. Additionally, consider the outcomes expected for the tool and clearly articulate these to any and all stakeholders. Determine if a mandate or recommendation for use is best for your campus culture and which will most impact the outcomes. SSU found that a mandate provided consistent delivery on the advising interactions they wanted. Many MSU participants asked for this type of mandate or guideline after the implementation experience. Integrate the use of the tool into the institution's strategic plan, advisor training, and advisor evaluation, if appropriate for your institution's culture. Ensure the commitment to the use of the tool will last beyond one administrator's tenure. At both SSU and MSU, buy-in came from the usefulness of the tool. If the SSMS replicates some functions that already exist for your advisors, ask advisors and stakeholders to brainstorm on ways to make the SSMS the primary tool. Consider student needs by asking students what they wish advising offered to them. It may be that the ability to schedule appointments online and at their convenience is a feature students wish for most, and advisors will likely adopt a tool that makes things easier for students.

Recommendations to academic advising administrators. As the administrators charged with leading academic advising, you have the unique opportunity to understand the true direct service to student perspective while still advocating for the larger needs of your unit and making strategic decisions to best serve students. As such, it is important to share any existing

gaps in advising tools with your senior leaders. You can't expect them to know these gaps, you must work to identify them, share them, and stay abreast of changes in advising and advising technology that can help to meet them. Advocate for your advisors by speaking up when a tool is "just another tool" versus adds value to the advising landscape. MSU advising directors indicated that tools were constantly being added to advisors' plates and suggested MSU must prioritize the use of these tools. In addition, critically examine the tools advisors are using. Remove those that do not contribute to the outcomes of advising and help advisors to understand the priority of use for other tools. As you lead your unit, you must clearly articulate the required aspects of academic advising and where there is room for style or personal approach. Many new advisors are entry-level professionals. The training and leadership you provide to incoming advisors will shape the field. If model or approach matters, provide training for it and set expectations for what does and does not meet the standard. If tool usage matters, provide the same level of training and set the same level of expectations. Educate your advisors on the various models or approaches in use and help them to understand why you have chosen the approach your unit relies on most. Be sure to assess the advising model that you use, both in terms of student feedback and student learning outcomes. Ask your advisors for feedback on using the approach on a day-to-day basis. Share the findings of this assessment with senior leaders, advisors, and other colleagues.

Recommendations to NACADA, and members. As the primary professional organization for academic advising, NACADA is often looked to for training, professional development, and to better understand changes and trends and their impacts to the advising field. As such, the lack of information about the use of academic analytics and IPAS tools could be limiting to members wanting to increase their understanding. New and more experienced

advisors can benefit from publications and trainings in the area of advising technology that go beyond distance and online advising. In addition, data-informed decision-making is becoming a critical skill for advisors as evidenced by SSU and MSU. This area should be added to the key components of academic advising and NACADA should lead in initiatives to increase advisor's skills in this area.

NACADA members, graduate students looking to join the advising field, or other higher education professionals looking to move sectors should consider that adaptability, willingness to learn and utilize advising technology solutions and strategically outreaching to students may be critical for success in the role. Both MSU and SSU indicated that these skills were increasingly crucial for their advisors.

These recommendations are not exhaustive, but are meant to demonstrate the need for senior campus leaders and those leading advising efforts to work collectively to determine the gaps in the advising community and how to best address them. In addition, they are meant to expand the information and training that NACADA provides to include data-informed advising. As the number of campuses purchasing, implementing, or using predictive analytic tools has grown in the last year by 7% (Tyton Partners, 2017b), the primary professional organization for academic advising must address the needs and realities of working in our field.

Future Research Considerations

Students. Although there was some inquiry with administrators and advisors on the awareness that students have of the EAB tools and some of the ways in which advisors use the tool directly with students, very little exploration was done in regards to the impact (if any) to student interaction and no exploration was done with students themselves. Better understanding how students feel about the use of predictive analytics and tracking, especially in light of the

concerns that Midwest State University raised, is needed. Both institutions demonstrated that some decisions will need to be made about how advisors will share the EAB tool with students (if at all) and if they are the intended audience for better understanding the role of predictive analytics in higher education.

Faculty. When considering sampling for this study, I purposely focused my efforts towards staff members whose primary responsibility is academic advising. However, as faculty advising is model that is a large part of the advising landscape at MSU, some information emerged about the role of the implementation on faculty advising. Deb, Midwest State's Director for Undergraduate Programs and Academic Quality, shares that the implementation may have some impact to faculty advising in the future:

> I think EAB is forcing the discussion in some places about the faculty model. What number of advisees do you need to have a critical mass of advising responsibility to make it meaningful for you? Is the idea having someone with 10 advisees, is it good for the students? Is it good for the faculty? I think that there is some realization that it is not, and that is what is causing some of shift. Chemistry used to be all faculty, they now have one staff member and faculty. So I think we will start to see a shift towards more professional advisors, not EAB is spurring it, but people were kind of thinking this, and now, 'Oh we have to take notes in a system?' or 'I have to set up my availability so students can schedule an appointment with me?' I think it is just, 'Can't we get a staff member to do this?' I think it is going to start to be a 'We will take care of the mentoring, you take care of all of this nuts and bolts, course selection, have they met all the requirements for graduation, worry about the logistics.' (Deb, 2017).

Bridget shares that the faculty model has impacted some of the success she has been able to accomplish in her role as University Academic Advising Coordinator for MSU:

> In terms of pinch points, definitely getting faculty advisors trained, because we throughout the university have a mixed model of things, not even definable by college all of the time, it is by department. So there are a lot of pieces there that just need more strategy. Plus there is also the understanding that if you are a faculty member and you advise six undergraduates, there is a certain amount of scale that it doesn't matter what this provides. So figuring out how to reach them, what sort of message to use for the group that has 6 students versus 250 students, it is a tougher sell (Bridget, 2017).

While the connection between using the SSMS and faculty advisor is beyond the scope of this study, a few questions related to faculty advisors and use of the SSMS remain. Faculty play varied roles for the institution and have competing demands for their time. The use of the SSMS could add value to the advising conversations they have with students, but also requires that faculty learn a new system, meet any minimum standards put in place for use of the tool, and be assigned a large enough number of advisors to remember the various tool functionality. This may not be feasible for the faculty role. Through the use of job descriptions, formal expectations and performance evaluations, professional staff academic advisors can be effectively held to meet any standards the institution may put in place for tool use. The absence of these with faculty positions could make accountability challenging to enforce.

Conclusion

This study, focused on the implementation experiences of Southern State University and Midwest State University and the impacts to advising work and approach, was conducted by interviewing nineteen advisors and advising administrators. This study helped to identify the

rationale behind implementation of an IPAS tool, specifically the Education Advisory Board's Student Success Management System, some of the factors necessary for a successful implementation, how advising work was affected at these institutions and the impacts to academic advising approach through implementation. The study concluded that although the implementation experiences of the two University of Innovation Alliance institutions were quite different, there were similarities in terms of the strategic decision to implement and the focus on student success metrics. Advising work was impacted by the implementation at each institution. Advisors found the most value from the function of the SSMS and the ways in which is made their day-to-day work easier. They did not focus as much on the predictive capabilities of the SSMS. Newer, less experienced advisors were more comfortable with the use of the tool and each institution made a subtle shift in hiring to find candidates with more comfort using data to make decisions.

The findings of this study reveal that academic advising is valued and is at the forefront of institutional strategic planning. As such the true needs of advising on an individual campus must be considered when planning for future technology. While implementation of the SSMS did not seem to substantially change the advising approach of either institution, it did demonstrate that in the absence of a strong developmental advising practice, the tool is structured to focus advising efforts on the transactions of advising and puts a more prescriptive advising approach into action.

This study concludes that the advising profession utilizes a high number of tools to streamline advising and improve access to the information that advisors need, but that despite this there are still gaps in what advisors feel they need to do their job. The EAB SSMS provides efficiency and allows advisors to streamline their efforts. The predictive analytic components of

the tool can be overlooked as advisors busy themselves with the basic advising functions the tool provides. This study also finds that in the experiences of SSU and MSU, some aspect of centralization was necessary to implement the tool. Finally, this study concludes that in the experiences of SSU and MSU, resistance to change, specifically use of the tool and new ways of advising were present. Advising leaders indicate that this resistance to change can be a barrier and that one strategy employed is to find newer, less experienced advisors to help create institutional change. Individuals have long resisted change for many reasons. Despite this, higher education demands innovation and some traditional areas of the academe must be moved into the 21st century. Without a central point of contact, implementations may not flourish, or worse, may fail. Given the high cost of purchasing and maintaining an academic analytics tool, it is critical to dedicate the human resources to make it successful.

The EAB SSMS is a powerful tool and has improved academic advising function for each institution in this study. However, the use of this tool demonstrates its ability to shape advising conversations, to inform advisor outreach, and to prioritize the actions of advisors. All of these uses are positive and were valued at the two case study universities. The long-term impacts of these uses, however, are not yet known. For decades, the relationship components of developmental advising have been shown to make positive contribution to the student experience and to contribute to retention gains. As demonstrated by the advisors at MSU, it is possible for advising to become more prescriptive in nature to begin to focus on the "script" of advising interventions rather than on the relationships. With this change, it is possible that the positive contributions that advising has made will be lessened or changed in some way. While integration of technology is critical to the work of advisors and important to continue to meet the

changing demands of students, remaining true to the most impactful areas of academic advising is also critical.

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Appendix 1: Recruitment Email

Dear Colleague,

I am writing to tell you about my doctoral dissertation research study on the experiences of advisors implementing academic analytics. The purpose of this research study is to explore the advisor's perceptions of change to their role, impact to advising approach or philosophy, and interaction with students with use of the Education Advisory Board's Student Success Management System analytic tool.

I am seeking your assistance in identifying professional academic advisors on your campus who are familiar with the Education Advisory Board's Student Success Management System and its use who might be interested in learning more about this study.

I plan to conduct interviews on campus on December 12th, 13th, and 14th. I would appreciate if you would pass along this information on to any of your colleagues who might be interested in participating in my study. If you, or a colleague you know are interested in learning more about the study, please contact me:

Abby Coffin

Cell phone number (call or text): (913) 683-5328

Email: acoffin@ku.edu

Participation in this study is voluntary and inquiries for more information about the study does not obligate anyone to participate. I thank you in advance for your consideration and assistance in sharing information about this study. Please do not hesitate to contact me with any questions.

Sincerely,

Abby Coffin
Principal Investigator
Doctoral Candidate
Educational Leadership & Policy Studies
University of Kansas

Susan Twombly, Ph.D.
Faculty Supervisor
Chair
Educational Leadership & Policy Studies
University of Kansas

Appendix 2: Informed Consent

Informed Consent Statement

The Experiences of Advisors Implementing Academic Analytics

INTRODUCTION

The Department of Educational Leadership & Policy Studies at the University of Kansas supports the practice of protection for human subjects participating in research. The following information is provided for you to decide whether you wish to participate in the present study. You may refuse to sign this form and not participate in this study. You should be aware that even if you agree to participate, you are free to withdraw at any time. If you do withdraw from this study, it will not affect your relationship with this unit, the services it may provide to you, or the University of Kansas.

PURPOSE OF THE STUDY

The purpose of this study is to interview professional staff academic advisors at two University Innovation Alliance (UIA) institutions that have implemented the Educational Advisory Board's Student Success Management System (EAB SSMS) tool. This study intends to understand the ways in which the academic advisors in these two public research universities perceive that their role has been affected, their perception of any impact to advising approach or philosophy, if one exists on their campus, and their perception of how interaction with students has been affected after implementation of the tool on their campus.

PROCEDURES

You will be asked to participate in a one hour, semistructured interview in your office at your institution. The time commitment for participation is one hour. The interview will be recorded by a digital audio recorder.

If you wish to stop the recording at any time, you may do so. Audio recording is required to participate in the study procedure. Audio recordings will be transcribed by the investigator, and only the investigator

will have access to the recordings. The recordings will be stored on a locked, password protected laptop, stored in a locked drawer. Recordings will be destroyed at the completion of the project.

RISKS

There are no expected risks with the participation of this study.

BENEFITS

Participating subjects can expect to directly benefit from greater understanding of the role and function of their profession in conjunction with significantly increased technology use.

Indirect benefits include study findings used to recommend the EAB SSMS to campuses looking to integrate data into their advising practice, or can be used to prevent those same institutions from investing in a technology that will not be worthwhile. Higher Education administrators will benefit from understanding resistance to change, or a specific technology change in academic advising. Advisor directors will benefit in additional understanding of training, professional development and setting expectations for advisors starting in the field of academic advising. The advising communication will benefit in broadening the understanding of technology within the role of academic advising and setting expectations for the type of practice that some advisors may be asked to meet on campuses leveraging IPAS technology. Broadening this understanding can be used on a local advising training level, in graduate coursework, and can be utilized in professional organizations such as the National Academic Advising Association.

PAYMENT TO PARTICIPANTS

Participants will not be compensated in any way for their participation in the study.

PARTICIPANT CONFIDENTIALITY

Your name will not be associated in any publication or presentation with the information collected about you or with the research findings from this study. Instead, the researcher(s) will use a study number or a pseudonym rather than your name. Your identifiable information will not be shared unless (a) it is required by law or university policy, or (b) you give written permission.

Permission granted on this date to use and disclose your information remains in effect until the completion of the project. By signing this form you give permission for the use and disclosure of your information for purposes of this study at any time in the future.

REFUSAL TO SIGN CONSENT AND AUTHORIZATION

You are not required to sign this Consent and Authorization form and you may refuse to do so without affecting your right to any services you are receiving or may receive from the University of Kansas or to participate in any programs or events of the University of Kansas. However, if you refuse to sign, you cannot participate in this study.

CANCELLING THIS CONSENT AND AUTHORIZATION

You may withdraw your consent to participate in this study at any time. You also have the right to cancel your permission to use and disclose further information collected about you, in writing, at any time, by sending your written request to: Abby Coffin 1450 Jayhawk Blvd Lawrence, KS 66045

If you cancel permission to use your information, the researchers will stop collecting additional information about you. However, the research team may use and disclose information that was gathered before they received your cancellation, as described above.

QUESTIONS ABOUT PARTICIPATION

Questions about procedures should be directed to the researcher(s) listed at the end of this consent form.

PARTICIPANT CERTIFICATION:

I have read this Consent and Authorization form. I have had the opportunity to ask, and I have received answers to, any questions I had regarding the study. I understand that if I have any additional questions about my rights as a research participant, I may call (785) 864-7429 or (785) 864-7385, write the Human Research Protection Program (HRPP), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7568, or email irb@ku.edu.

I agree to take part in this study as a research participant. By my signature I affirm that I am at least 18 years old and that I have received a copy of this Consent and Authorization form.

_____ _____

Type/Print Participant's Name Date

_____

Participant's Signature

Researcher Contact Information

Abby Coffin
Principal Investigator
Education Leadership & Policy Studies
208 Joseph R Pearson Hall
University of Kansas
Lawrence, KS 66045
785 864 0174

Susan Twombly, Ph.D.
Faculty Supervisor
Education Leadership & Policy Studies
208 Joseph R Pearson Hall
University of Kansas
Lawrence, KS 66045
785 864 9721

Appendix 3: Interview Protocol

Administrator/Implementer

1. What lead to the implementation of EAB SSMS?
2. Who were the decision makers?
    a. Was advising involved?
3. What was the tool evaluation process?
4. Was there evidence of an advising approach/philosophy on campus prior to implementation?
    a. Was this taken into consideration, if so, how? If not, can you explain how not?
5. What was the implementation process?
    a. How were advisors involved in the process?
    b. What has been challenging about the implementation? What were the bright spots?
    c. Was the implementation met with resistance or ease? What do you feel lead to this?
6. What decisions were made regarding what students will see in the EAB SSMS platform? How were these decisions made? Do these choices influence advising process or approach?
7. How will you/do you know if the EAB SSMS is successful on your campus?
8. What are your outcomes for the use of the EAB SSMS? When in the implementation process were these identified?

Advising Director

1. How and when did you become involved with the EAB SSMS implementation?
    a. What is your role/interaction with it?
2. How is the EAB SSMS utilized?
3. Prior to EAB SSMS, was there any advising approach/philosophy at work?
    a. Is there currently and approach/philosophy?
4. What is the role and function of advisors?
    a. How do advisors use EAB SSMS?
    b. How do advisors decide who to reach out to? Prior to EAB SSMS, how?
5. How is their interaction with EAB SSMS evaluated?
6. As an advising director, how do you feel interaction with students has been impacted?
    a. Are students aware of EAB SSMS?
    b. What decisions were made regarding what students will see in the EAB SSMS platform? How were these decisions made? Do these choices influence advising process or approach?
7. What has been challenging about the implementation? What were the bright spots?
    a. Was the implementation met with resistance or ease? What do you feel lead to this?
8. How will you/do you know if the EAB SSMS is successful on your campus?
9. What are your outcomes for the use of the EAB SSMS? When in the implementation process were these identified?
10. What advisors (based on length of time of tenure, type of office, etc.) are most successful with the EAB SSMS?
    a. Have (or will your) hiring practices change based on the implementation of the EAB SSMS?

Advisor

1. Can you tell me about your advising experiences at this campus or others?
2. What is your personal advising philosophy?

    a. How does advising philosophy (yours personally or a campus philosophy) shape your approach with students? What about in very busy times such as main advising? Has the EAB SSMS changed this?
3. Does your campus have an advising approach or philosophy?
    a. If so, was this in place at the time of EAB SSMS implementation?
    b. If so, were you trained on this approach/philosophy?
    c. If so, was this approach/philosophy a part of your hiring process? (a requirement of the job or preferred requirement)
    d. If not, is advising approach/philosophy something discussed or considered?
4. Does the advising approach/philosophy (or lack of) impact your daily work with students?
5. How did the EAB SSMS implementation come about on your campus? How were you informed? What were your initial reactions? Have those held true or not, and how?
    a. Has the EAB SSMS had any impact to advising approach/philosophy? In what ways?
    b. What was your role in EAB SSMS implementation?
    c. How were you involved in decision making of EAB SSMS?
6. How does EAB SSMS use play into your evaluation as an advisor?
7. What prior tools were available to do your job and what other tools do you use now?
8. What are the highlights of the EAB SSMS? Are there any disadvantages to using this tool?
    a. Have you perceived any changes to the nature of your relationship with students since the implementation of the EAB SSMS?
    b. Do you see any students after implementation of the EAB SSMS that you didn't before implementation, or do you no longer see any particular students?
9. (if students aware) What do you think students think of the EAB SSMS?
10. In what ways has advising on your campus improved since the implementation of the EAB SSMS?
    a. Has anything not improved, or has anything decreased in your opinion?
11. How do you feel about your role using the EAB SSMS? If this different than how you felt about your role prior to EAB SSMS?