EXPLORING THE PERSPECTIVES AND LIVED EXPERIENCES OF ACADEMIC ADVISORS WHO USE AN ACADEMIC EARLY ALERT SYSTEM AT THE UNIVERSITY OF MISSOURI

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by

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The undersigned, appointed by the dean of the Graduate School, have examined the dissertation entitled

EXPLORING THE PERSPECTIVES AND LIVED EXPERIENCES OF ACADEMIC ADVISORS WHO USE AN ACADEMIC EARLY ALERT SYSTEM AT THE UNIVERSITY OF MISSOURI

presented by Michael Williams,

a candidate for the degree of doctor of educational leadership and policy analysis,

and hereby certify that, in their opinion, it is worthy of acceptance.

Professor Michael Steven Williams

Dr. Tina Balser

Professor Brad Curs

Professor Jennifer Fellabaum Toston

Dedication

The last four years have entailed a lot of sacrifice, planning, and workarounds directly because of this dissertation on the behalf of my family and friends. This dissertation would not have been possible without the understanding and support of my village. I am so incredibly thankful for each of you and I look forward to being fully in the moment during conversations and not silently berating myself because I could be writing just one more paragraph.

I also want to acknowledge and dedicate my dissertation specifically to my grandfather, Gerald Ray Holland. While Papa passed before I successfully defended this dissertation, I did my best throughout coursework, comprehensive exams, research and data collection, and the writing to perform at the high standard and expectations that he instilled within me. I know that he is beyond proud of me and this accomplishment. Your Little Buddy loves and misses you every day.

Acknowledgments

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Finally, thank you to my current and former colleagues, research participants, and friends in higher education. Your willingness to go the extra mile to help students succeed and reach their goals is such a positive motivator for me to help make higher education and student success the best version of itself.

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Abstract

This case study explores professional academic advisors' perceived usefulness of a fully implemented academic early alert technology at a four-year, public, flagship university in the Midwest. Academic early alert technology has increasingly become more common at colleges and universities during the past two decades, followed by an increasing number of rigorous studies regarding the effectiveness of these systems and the perceptions of key stakeholders with the notable absence within the literature of academic advisor's perceptions. This study focuses on that gap and analyzes how academic advisors perceive early alert technology usefulness for their job duties.

Section One: Introduction to the Dissertation-In-Practice

Exploring the Perspectives and Lived Experiences of Academic Advisors who use an Academic Early Alert System at a University

Low graduation rates have been an issue with American Universities since the 1600s (Geiger, 2015). American universities also have a long history of acting in what they believe is the best interest of their enrolled students. Before the 1960s, universities were responsible for caring for their students through a legal doctrine known as *in loco parentis* (Lee, 2011). This legal doctrine allowed universities to dictate everything students did on and off-campus. Institutions have since transitioned to a facilitator model, where the institution is concerned with the student's development (Lee, 2011). Being concerned with a student's development, in turn, led to the development of the intrusive advising model (Glennen, 1975; Hudson, 2006). Intrusive advising, known contemporarily as proactive advising, "involves intentional institutional contact with the student…that leads to increased academic motivation and persistence" (Varney, 2013, p. 137). Around the same time as the transition from *in loco parentis* to the facilitator model, higher education costs and tuition charges began to increase faster than overall inflation (Archibald & Feldman, 2011). The increased higher education costs have persisted through the decades, and institutions receive less funding from the federal and state governments now than they did 50 years ago (Alshehri, 2016; Archibald & Feldman, 2011; & Bell et al., 2018). These decreased funds now often come associated with Performance-Based Funding models (PBF; Alshehri, 2016; Archibald & Feldman, 2011; Bell et al., 2018; IPEDS, n.d.).

With limited resources and higher levels of accountability, institutions are attempting to find the proverbial silver bullet that magically fixes the national 4- and 6-year graduation rates (Dwyer, 2017). Scholars have continuously investigated factors influencing retention and

graduation rates since the middle of the twentieth century (Astin, 1987; Iffert, 1958; Kuh et al., 2006; Tinto, 2012; Velasco, 2020). Tinto (2012) illuminated enrollment in higher education has increased 11 million since 1980, but completion rates have increased only slightly. The importance of retaining students is ever more apparent when considering that "lost tuition dollars is not just for that next academic year but potentially lost tuition dollars for four years if a first-year student is in question" (Bean, 1992, p. 147; Hudson, 2006). As a result, institutions have increasingly implemented retention efforts based on real-time data reporting (i.e., early alert systems) and predictive models suggesting likely outcomes from expected behaviors (Baepler & Murdoch, 2010; Simons, 2011; Velasco, 2020).

Early Alert systems are increasingly one way for an institution to improve its student retention and persistence rates (Simons, 2011). Early Alert systems will be defined using Tampke's definition. "A systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts" (Tampke, 2013, p. 524). Researchers have evaluated the effectiveness of early alert regarding student retention, persistence, and grade outcomes (Cai et al., 2015; Hudson, 2006; Simons, 2011; Tampke, 2013; Velasco, 2020). Other studies have analyzed early alert systems through the interrelationship between technologies, people, and the organizational structure and conceptual designs (Balser, 2018; Carver, 2020; Dwyer, 2017; Simons, 2011). However, there appears to be a lack of studies specifically focusing on the experiences and perspectives of academic advisors and their use of early alert systems.

Regarding early alert, academic advisors are typically the end-users who respond to various tracking items in the system after another user has raised said tracking item (e.g., a faculty member raising an "In Danger of Failing" flag; Asby, 2015; Balser, 2018; Simons, 2011).

These strategic student retention initiatives are often added to academic advisors' job duties in addition to other obligations and are not always clearly listed in an individual's assigned duties (Balser, 2018). So far, the early alert literature has not adequately explored the unique lived experiences of academic advisors who use early alert systems on their campuses.

Statement of the Problem

There is a lack of studies that rigorously analyze academic early alert technology's usefulness and efficacy in higher education while simultaneously understanding the perspective and experiences of academic advisors who use the system. Most of the statistical analysis done on early alert has focused on student outcomes rather than the experience of the end users who utilize the system. Statistical analysis such as First Time in College students (FTC) and the fall-to-fall retention rate based on an entering class is a typical starting point for effectiveness. Other studies have focused on the instructor or student perspective of early alert systems (Baird, 2006; Bentham, 2017; Graham, 2017). The problem is that we do not know enough about academic advisors' perceptions of early alert technologies adopted at institutions. This fact is particularly problematic because academic advisors are often responsible for conducting early alert academic interventions on top of ever-increasing caseloads of students. In addition, scholars are just beginning to acknowledge that concerns with retention should not be relegated to only FTC but to all students, particularly those with identified needs (Hudson, 2006; Swail, 2003; Tsai et al., 2020).

Purpose of the Study

The purpose of this study is (a) to explore the unique experiences and perspectives of academic advisors who utilize an early alert technology and (b) to understand how academic advisors would increase the efficacy of an early alert technology at their institution. Early Alert

studies thus far have not explored how academic advisors perceive and utilize early alert technology. Instead, the Early alert literature has focused on (a) student persistence, (b) evaluating early alert adoption rates among higher education institutions, (c) early alert assisting predictive student success models, (d) faculty perceptions, (e) enhancing meaningful and early feedback, (f) importance of identifying underachieving students, (g) the persistence and correlation of students in courses using early alert, (h) developing and implementing early alert systems, (i) discussing the value of early alert, (j) developing a standardized template to evaluate early alert systems, and (k) analyzing how student data has or can been collected ethically (Arnold & Pistilli, 2012; Atif et al., 2020; Balser, 2018; Barefoot et al., 2012; Cai et al., 2015; Donnelly, 2010; Dwyer et al., 2019; Faulconer et al., 2013; Fletcher, 2012; Horn et al., 2015; Hudson, 2006; Jayaprakash et al., 2014; Marcal, 2019; Simons, 2011; Sheehan, 2021; Sneyers & De Witte, 2017; Tampke, 2013; Tinto, 2012; Tsai et al., 2020; Velasco, 2020; & Villano et al., 2018). At the same time, academic advisors have been identified as crucial users of early alert and are likely to respond to raised tracking items within the system (Balser, 2018; Cuseo; 2006; Donnelly, 2010; Faulconer et al., 2013; Fletcher, 2012; Hudson, 2006; Marcal, 2019; Tampke, 2013; Villano et al., 2018). This study explored the current gap in the early alert literature regarding academic advisors' experiences and perspectives with early alert. In addition, most advising approaches assist in the student development process, and academic advising is considered an essential aspect of student success initiatives (Drake et al., 2013; Kuh, 2006; Simons, 2011; Swail, 2003). While there are many advising approaches that advisors can incorporate into their advising strategy, academic advising must intentionally assist students in achieving their goals (Drake et al., 2013). This study intentionally and critically analyzes

professional academic advisors responses to aid in understanding the advising perception of early alert's usefulness regarding advising duties as well as its usefulness with student success.

Research Questions

The research questions (RQ) guiding this case study were:

1. How do academic advisors perceive early alert technology usefulness for their job duties?
2. How do academic advisors perceive the usefulness of an early alert technology relating to student success?
3. How would academic advisors improve an already adopted early alert technology?

Conceptual Frameworks

The paradigm that guided the exploration for this case study is constructivism. The constructivist paradigm proposes that "knowledge is socially constructed and that researchers should attempt to understand the complex world of the unique lived experiences from the point of view of those who live it" (Schwandt, 2000, as cited by Mertens, 2020, p. 16). In addition, the Technology Acceptance Model 2 (TAM2; Venkatesh & Davis, 2000) is the theoretical framework guiding this study. TAM2 is a theoretical extension of the Technology Acceptance Model (TAM; Davis, 1989; Davis et al., 1989). TAM2's inclusion of theoretical constructs, such as the Social Influence Processes and the Cognitive Instrumental Processes, explain and contribute to a technology's perceived usefulness made it helpful for this investigation. The focus on technology adoption and not on the processes influenced by a technology, influenced this study to target how academic advisors perceived the usefulness of early alert technology and not how early alert effected the processes of early alert. In addition, this study examines a technology platform (i.e. early alert) that has already been widely adopted and implemented across the undergraduate academic units (AU) and most of the student services at the

institutional site. Because the institution is in the final stage(s) of adoption and implementation, other frameworks, such as Technology Adoption Model (TAM), Theory of Reasoned Action (TRA), or Theory of Planned Behavior (TPB) which predict the likelihood of user adoption, were less useful for this case study.

TAM2 provides an opportunity to understand how academic advisors perceive themselves, their work with an early alert technology, and early alert as a technology.

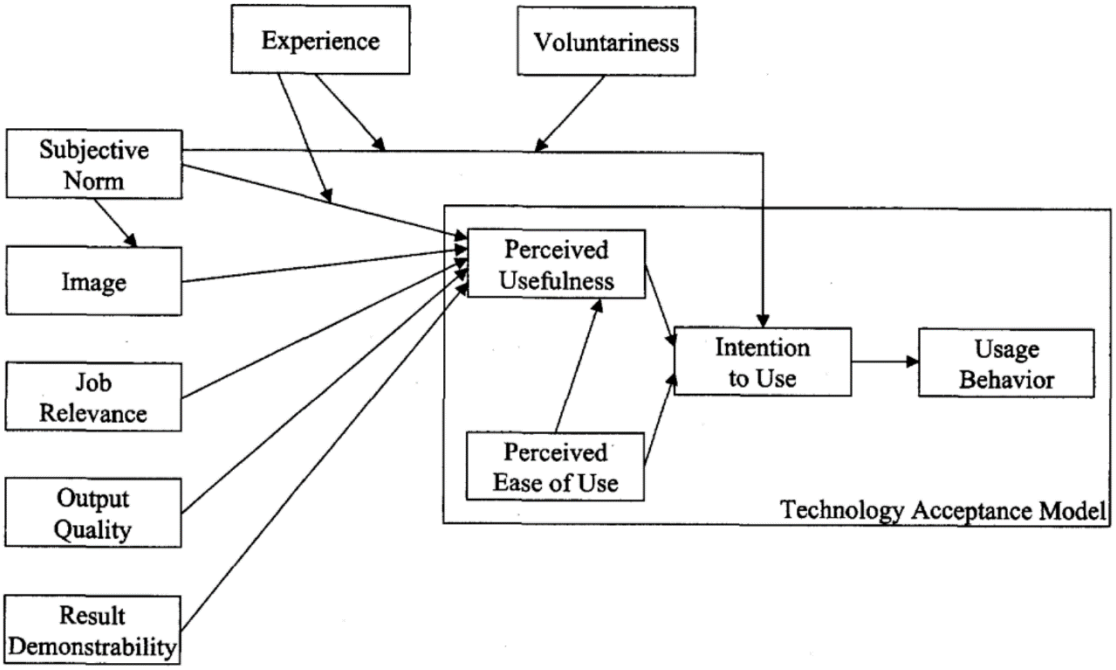

Figure 1. Venkatesh & Davis (2000) TAM2

In addition, the authors of TAM2 utilized measurement items that were validated from prior research, with the items regarding perceived usefulness conducted through stepwise regression analysis. The authors were able to explain 60% of the variance in perceived usefulness utilizing TAM2. The limitations of the TAM2 from this study are related to the small sample sizes of the longitudinal studies, self-reported usage was conducted instead of objectively measuring usage, and the longitudinal study only lasted a little over five months. I previously mentioned that the

authors used questions from another study. Utilizing these questions in this case study can help clarify or further explain the participants' experiences in interviews and focus groups.

Design of the Study

For this study, I decided to conduct a case study. Merriam (1998) illustrates case study studies are helpful when a researcher attempts to understand an individual's subjective experience(s). Further, Stake (1995) shares that constructivism should be one of the epistemologies that structures a case study, with "most contemporary qualitative researchers holding that knowledge is constructed rather than discovered" (p. 99). Incorporating constructivism into a case study allows for discovering knowledge regarding "several individuals who have experienced the same phenomenon to describe their lived experiences" (Giorgi, 2009, as cited by Creswell, 2014, p. 14). After analyzing the literature surrounding early alert and noticing a gap in incorporating an academic advisor's lived experiences with the technology, I developed the research questions. Academic Advisors are often a crucial aspect of an early alert, serving as a point of contact for a student after an early alert has been raised on a student (Asby, 2015; Dwyer, 2017; Balser, 2018; Simons, 2011; Velasco, 2020). Utilizing a case study allows me to explore a specific, complex, and functioning integrated system with clear boundaries (e.g., one early alert technology, at one institution). In addition, by understanding that I am not creating an awareness of how academic advisors perceive an early alert technology at their institution, I can consider the interrelationship between the phenomenon and the context. This awareness helped me to temporarily dispel any preconceived notions, assumptions, or biases I already constructed. At the same time, this case study analysis allows advisors to share their unique perspectives regarding the early alert technology they use.

Setting

The setting for this study is the University of Missouri – Columbia. The University of Missouri – Columbia (MU) is a four-year, public, nonprofit institution in the Midwest. This research site was specifically chosen because of the relative ease of access to potential research participants and familiarity with the institution's early alert technology. As Simons (2011) and Balser (2018) illustrated, early alert systems and the respective intervention processes of those systems can vary significantly between institutions, potentially affecting the study's research questions. This was a significant factor in limiting the case study to one institution using one early alert technology.

Participants

The primary sample group was undergraduate academic advisors across all eight undergraduate academic units at MU to participate in this study (see Appendix A). I sent an email to the Academic Advising Leadership Council (AALC) requesting an opportunity to share the details and purpose of the study so that they could encourage and approve of the academic advisors from their school and college to participate in the study. A member of AALC agreed to send an email the university advising listserv to begin recruiting participants as well as several follow up emails asking for additional participants. The participation email contained details about the study's scope and asked to schedule online focus groups and interviews with them. Coordinating with AALC allowed me to identify professional academic advisors who meet with students and utilize the institution's early alert technology. I did not invite academic advisors who did not use the early alert technology to participate since this study focuses on the lived experiences of those who use early alert as part of their job duties. Faculty academic advisors were also not invited to participate in this study. Faculty-advisors can provide a mentor role that

professional advisors may be unable to provide, due to the relationships instructors and students can form in and out of the classroom (Hemwall, 2008). However, there are significant differences in the breakdown of job duties and expectations between faculty advisors and professional advisors. Professional academic advisors are more often responsible for outreach on early alert interventions and thus more likely to engage with early alert technologys. I also included information regarding the purpose of the study and consent documents to gain written consent once the participants had signed up for a focus group or interview (see Appendix B). The consent documents informed the advisors that they could withdraw from their participation at any point (Stake, 1995).

Data Collection Tools and Procedures

I conducted six interviews and five focus groups with academic advisors from all eight AUs. A total sample of 21 people participated across all five focus groups. I intentionally conducted focus groups and interviews with the heads of advising separately from those advisors who do not have supervisory responsibilities. This is because those in advising leadership have increased responsibilities, are responsible for strategic decision-making and organizational influence, and allow for a more nuanced view of how early alert is used not just in their AU but potentially across campus. Most importantly, academic leadership interviews and focus groups were conducted without the academic advisors to limit biased responses due to their own supervisor being present and potentially withholding their true perspectives and experiences. Members of the focus group each brought a unique perspective and experience of the early alert technology used at the institution. These participants were crucial in illustrating how the advising community perceives early alert technology's usefulness in their job duties, student retention, and how they would change the system to increase its usefulness. Recognizing that the institution

has already adopted an early alert technology and TAM2 was designed to evaluate an organization that has yet to adopt a technology, the questions that I asked in interviews and focus groups were altered so participants could provide rich descriptive responses instead of answering via a Likert scale.

I conducted the interviews and focus groups online utilizing the teleconferencing software program, Zoom. Using Zoom as the medium allowed me to record interviews and focus groups. Zoom also automatically transcribed the conversations to be securely recorded to the cloud. The knowledge and understanding gained from discussions with the AALC and academic advisors helped inform the multiple semi-structured interviews and focus groups (Merriam, 1998).

Data Analysis

I conducted the data analysis usinga qualitative coding approach known as phenomenological analysis. Phenomenological analysis "focuses on comprehending the essence of the participants' experiences" (Mertens, 2020) to find the common themes shared by the study's participants from the focus groups and interviews. Coding the participants' responses in this approach allowed me to set aside my own beliefs and understand their unique experiences.

I examined data from the transcripts of six interviews and five focus groups. Zoom's recording software first created the transcripts, and I edited them for accuracy and clarity. Mertens (2020) illustrates that coding for qualitative studies is an ongoing process and must start somewhere. I began hand-coding while reading and editing the transcripts from interviews and focus groups. I also made notations in the transcripts after participants shared their experiences that could help answer the research questions. I regularly reviewed previous interviews and focus groups throughout the study if new explanations or findings emerged, also known as essence

description (Moustakas, 1994). Regularly reviewing previous interviews and transcripts provided an opportunity to triangulate my findings from multiple sources. Guba and Lincoln (1989) illustrate that triangulation is not merely a way for researchers to ensure consistency across multiple sources but instead is helpful to review factual data. Triangulation of data can help increase the transferability by increasing the accuracy of this study's details, assisting the reader to "judge the applicability of the research findings to their situations." (Mertens, 2020, p. 283).

As the essence description developed from interviews and focus groups, I identified reoccurring themes and categories (Creswell, 2014). As I analyzed the essence description, I noted any conflicting responses and emailed the participant to clarify the meaning of what was shared. Analyzing the essence description allowed me to validate participant responses and remove potential misunderstandings. This detailed analysis helped ensure that I was continuously aware of my preconceived biases.

Efforts to Support Quality Research

To support quality research, it is imperative that ethical guidelines and processes are in place and followed. These ethical guidelines begin with the researcher. *The Belmont Report* (1978; as cited by Mertens, 2020) states research should benefit both society and show the participants respect, justice, and beneficence for participating in the study. Safeguarding participants from potential negative consequences was a top priority. Those who volunteered to be a part of the study had their names and responses made anonymous—making the research participants anonymous helped protect them from the potential blowback from their employer or supervisor (Creswell, 2014). In addition, the recorded interviews and focus groups were saved to a computer with a password and backed up on a cloud-based server that also required a

password. Keeping the recordings in multiple places helps ensure that they will be available if I need to retrieve them within five years.

Potential Bias.

Another important ethical consideration is my positionality as the researcher. When conducting case studies, researchers need to be aware of their preconceived biases and judgments (Mertens, 2020). Throughout the data collection process, I was mindful of and recorded my thoughts and assumptions (Stake, 1995). This awareness is essential for me. Currently, I am a strategic consultant for the company that owns the early alert technology the institution uses. As well as my previous role where I served as the early alert coordinator for the University of Missouri's early alert technology. In that role I was responsible for maintaining, conducting trainings, and partnering with the academic advisors for various implementations and initiatives regarding early alert. Drake and Heath (2011) illustrate the importance of recognizing biases and anticipating potential issues before the study begins. Describing and being forthright with my positionality allows readers to critically analyze this study and provide an opportunity to discuss an area that I may have overlooked due to how close I have and had worked with the early alert technology.

Limitations.

This case study has several important limitations. First, this case study is limited to a single four-year, public, institution in the Midwest. In addition, the advising model at the University of Missouri is decentralized and largely left to the individual AUs to best determine how they should serve their students. A decentralized advising model affects the number of advisees an academic advisor is assigned. As well as different expectations and time left to engage with early alert after their primary advising duties have been completed. Even though

data saturation was reached through the six interviews and five groups conducted, the overall number of professional academic advisors that participated, compared to the total number of professional advisors on campus, is low, and the likelihood of missing a unique advisor perception is high. Another significant limitation of this is study is regarding the status of the early alert technology's adoption on campus. The University of Missouri is regarded as fully implemented while the theoretical framework was explicitly designed to predict the likelihood of adoption. Finally, there is an ever-growing number of unique institutional homegrown early alert systems and early alert systems professionally developed and available for purchase; this study only includes one of the available early alert technologies in the marketplace.

Key Terms

I previously illustrated the depth and breadth of academic early alert studies. A common theme I recognized while compiling this literature review was that nearly all studies regarding early alert included a section dedicated to key terms associated with the early alert technologys within their respective study. Further, many academic early alert systems are available for purchase from corporations, in addition to homegrown systems developed by institutions. With a small likelihood that multiple institutions are using the same system, with the same processes, and also using the same terminology, including a key terms section in this paper is necessary to limit confusion. The following definitions apply to this study:

- **Academic Intervention** refers to an intentional interaction to change a student's behavior (Wright, 2012).
- **Alert** refers to a technical tool that can indicate a student's behavior or that the student needs additional assistance. There are three types: Flags, Kudos, and Referrals.

- **Attribute** refers to a datapoint assigned to the student from the institution's student information systems (Starfish, 2021).
- **Attrition** refers to the loss of undergraduate students that do not re-enroll at the institution (Bean, 1980; Simons, 2011).
- **Close the Loop** refers to the communication to the person who created a Tracking Item and informing them some type of academic intervention has been attempted with the student regarding the concern the original created raised.
- **Early Alert** is a systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts (Tampke, 2013, p. 524).
- **Flag** refers to an indicator that a student is experiencing issues (Balser, 2018). These issues can be academic, social, or system-based and are a type of alert.
- **Full-time** refers to an undergraduate student enrolled in at least 12 credit hours.
- **Graduation** refers to an undergraduate student completing the requirements for a bachelor's degree in four to six years.
- **Kudos** refers to an indicator that a student is performing well and is a type of alert (Balser, 2018).
- **Marginal Populations** refer to historically underrepresented student populations (Simons, 2011).
- **Part-time** refers to an undergraduate student who is not enrolled in at least 12 credit hours.
- **Progress Survey** refers to an electronic survey allowing instructors to provide feedback regarding their students' academic progress (Balser, 2018).

- **Referrals** refer to an indicator that a user has identified a student who needs additional support from another campus resource—a type of alert.
- **Retention** refers to the percentage of students who re-enroll at the same institution between the fall semesters of a student's first and second year (NSC, 2015).
- **Persistence** refers to the percentage of students who maintain consecutive semesters of enrollment (Simons, 2011).
- **Student Network** refers to key stakeholders in the academic early alert system that are assigned or have an academic relationship with the student (Carver, 2020).
- **Student Success** refers to a student making academic progress towards and ultimately earning a degree as well as participation in co-curricular activities (Kuh et al., 2006)
- **User** refers to a faculty or staff member who uses the academic early alert technology (Balser, 2018)
- **Withdrawal** refers to a student that is no longer enrolled in a course or has completely left the institution.

Significance of the Study

Early Alert systems have become increasingly common as part of the strategic component in student success at campuses across the country (Arnold & Pistilli, 2012; Balser, 2018; Barefoot et al., 2012; Cai et al., 2015; Dwyer et al., 2019; Fletcher, 2012; Horn et al., 2015; Jayaprakash et al., 2014; Marcal, 2019; Simons, 2011; Sneyers, 2017; Tampke, 2013; Tinto, 2012; Velasco, 2020; and Villano, 2018). However, there is little to no literature exploring the experiences and perspectives of academic advisors who utilize an early alert technology. This study is significant because it examines that gap within the literature. Understanding the unique experiences of academic advisors could help illuminate why there are inconsistencies regarding

early alert's efficacy in studies. At the same time, this study identifies ways that advisors recommend enhancing the system to make it more useful i.e. effective and valuable. Increasing the usefulness of early alert technologys could help improve student performance,retention, and assist institutions in maximizing limited resources by increasing the likelihood of user adoption amongst academic advisors.

This study was conducted at a large 4-year institution and is regarded as having finished the implementation and pilot phases of adoption (A. Musser, personal communication, July 19, 2021). Specifically, the early alert technology is fully adopted across all undergraduate academic units and with most of the student support services campus-wide (R. Orr, personal communication, July 19, 2021). In addition, I intentionally conducted this study at a single institution due to the difficulties of comparing how academic advisors utilize early alert technologys at their respective institutions, which may or may not be in similar adoption stages.

I choose the University of Missouri because of the institution's President's and Provost's interest in increasing its retention rate and the importance of increasing student persistence for various national rankings (Basi, 2020). In addition, this study provides an opportunity for university leadership and coordinators of other early alert systems to transfer the findings of this study to their circumstances, assisting their institutions in determining practical and beneficial ways to utilize their early alert technology. Thus, ensuring institutional goals can be met.

Summary

Higher education in the United States has traditionally struggled with student persistence (Geiger, 2015). Researchers have studied various factors influencing retention and graduation rates for at least 60 years (Iffert, 1958; Simons, 2011; Velasco, 2020). Academic advisors have become more involved in holistically developing their advisees (Drake et al., 2014; Lee, 2011).

More recently, early alert technologys have offered a pathway that allows for more proactive academic advising practices, intentionally targeting students' instructors have indicated as struggling within their course(s) (Hudson, 2006). However, the literature lacks many rigorous academic studies that qualitatively analyze the perspective of academic advisors that utilize these early alert systems. This study explored academic advisors' experiences and perspectives while offering potential ways to increase the usefulness of the system they use. In addition, this study allows the reader to transfer the experiences of the research participants to their own lived experiences and determine whether there are opportunities for enhancements in their early alert technology. This study ideally serves as a template for other researchers to evaluate and analyze the academic advisors' experiences at other higher education institutions.

Section Two -Practitioner Context for the Study

This chapter includes an overview of the University of Missouri – Columbia (MU) and a review of academic advising best practices recommended by the Council for the Advancement of Standards in Higher Education (CAS) and NACADA. In addition, this chapter will provide additional context regarding the organizational and structural analysis. Understanding the history and demographic of the institution and the advising guidelines of two national academic advising conferences will provide crucial context to the reader. Further, analyzing the organization and its structure will contribute to understanding why the current advising activities are already occurring.

Examining academic advising activities through the lens created by the guidelines developed by the Council for the Advancement of Standards in Higher Education's (CAS) CAS Standards and Guidelines as well as NACADA's Academic Advising Core Competencies Guide allows for a more nuanced informational, conceptual, and relational knowledge areas to be explored (CAS, 2014; Farr & Cunningham, 2017; & Menke et al., 2020). As Menke et al. (2020) illustrated, these two guides are especially helpful. Allowing higher education administrators to understand which skills and prerequisite knowledge academic advisors need to do well in their positions. Utilizing these two guides will enable me to understand how academic advisors view themselves, students, and early alert systems working together to achieve positive student success outcomes. These guides also provided a unique perspective as I analyzed responses from interviews and focus groups. Utilizing principles developed by experts in the academic advising community will also make the findings and applications from this study more transferable to the target populations. Finally, I expect to discover specific recommendations that institutions and

advising units can incorporate into their best practices to support academic advisors better as they experience professional growth and through various challenges.

Efforts to support student success in higher education through various retention initiatives have encountered varying levels of success. Understanding the causes of student attrition and retention is a financially wise decision as institutional resources become scarce (Tinto, 2006). One such retention initiative is the early alert technology. Early alert is "a systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts" (Tampke, 2013, p. 524). Previous studies analyzing the efficacy of these systems had inconsistent findings (Dwyer et al., 2019; Sneyers et al., 2017). Arnold and Pistilli, (2012), Cai et al., (2015), Dwyer (2017), Faulconer et al., (2013), Villano et al., (2018) found a positive correlation between utilizing an early alert technology and student retention. Some studies did not find any correlation or found a positive but not statistically significant correlation between the two (Horn et al., 2015; Hudson, 2006; Tampke, 2013; Eimers, 2000). Yet others found that the success of the early alert technology is dependent on how the system is implemented (Balser, 2018; Fletcher, 2012; Simons, 2011). Some of the previously mentioned studies, as well as additional studies, focused on the perspectives of students and faculty members utilizing academic early alert systems (Arnold & Pistilli, 2012; Atif et al., 2020; Faulconer et al., 2013; Marcal, 2019; Velasco, 2020). This study aimed to understand academic advisors' unique experiences and perspectives at a large, four-year, public, flagship university in the Midwest that uses an early alert technology.

NACADA Academic Advising Core Competencies

Academic advising has made considerable changes during the last 50 years (Himes & Schulenberg, 2016). Further, academic advising processes can differ significantly from

institution to institution and differ from different advising units at the same campus, depending on the level of decentralization (Gordon et al., 2000). With the establishment of NACADA in the 20th century, academic advisors have had the opportunity to more easily share advising best practices, attend academic advising specific conferences, and rigorously critique academic advising research in academic advising journals. More recently, NACADA developed the Academic Advising Core Competencies Guide to address what duties academic advisors should and should not focus on mastering for their job (Farr & Cunningham, 2017). This competency guide is composed of three separate categories that advisors should become proficient within.

Conceptual Component

The first of the three areas focus on the context of academic advising. This context of academic advising is more concerned about the profession of academic advising than an individual academic advisor. These subject areas are (a) the history and role of academic advising in higher education, (b) NACADA's core values of academic advising, (c) theories relevant to academic advising, (d) academic advising approaches and strategies, (e) expected outcomes of academic advising, and (f) how equitable and inclusive environments are created and maintained. Again, these are focused on the context of the academic advising profession. Thus, it allows individual advisors to understand where advising came from, how their work currently supports students, and how advisors can use their strengths to assist students in reaching their personal goals.

Informational Component

The second component of NACADA's Competencies Guide concerns the relevant knowledge advisors need to know to support students. Unlike the first component, the informational element is more analogous to the academic advisor than the advising profession.

This component illustrates that advisors must be knowledgeable of (a) institutional specific history, mission, vision, values, and culture, (b) curriculum, related academic requirements, and other options, (c) institution-specific policies, procedures, rules, and regulations, (d) legal guidelines, i.e., FERPA, (e) characteristics, needs, and experiences of significant and emerging student populations, (f) campus and community resources that support student success, and (g) technology relevant to advising roles. Understanding institutional requirements, procedures, and legal guidelines are essential if academic advisors sufficiently support their advisees. In addition, mastering the informational component allows the individual advisor to help students navigate the complexities of their campus. More importantly for this study, mastering the second component also allows the advisor to participate in the institution's academic early alert technology effectively.

Relational Component

The third and final component is more centered on the individual academic advisor and emphasizes relationship-building in academic advising. The last aspect recommends advisors (a) state their philosophy of academic advising, (b) create rapport and build academic advising relationships, (c) communicate inclusively and respectively, (d) plan and conduct successful advising interactions, (e) ensure student understanding of the logic and purpose of the curriculum, (f) facilitate problem-solving, decision-making, meaning-making, planning, and goal setting, and (g) engage in on-going assessment and development of self and the advising practice. Building and maintaining relationships between academic advisors and students assist with student persistence and graduation (Bean, 2005; Pascarella & Terrenzini, 2005). Being able to relate to a student's desires and fears helps the academic advisor with their ability to support the advisees during a particular advising session. However, this advisor-advisee relationship also

contributes to the student's ability to persist at the institution and can be a factor in various student success initiatives.

CAS Standards and Guidelines

The second conceptual framework for this study was the predecessor of NACADA's Academic Advising Core Competencies Guide (Menke et al., 2020). Founded in 1979, the Council for the Advancement of Standards in Higher Education's (CAS) Standards and Guidelines established the idea that "self-assessment and self-regulation were a legitimate alternative to traditional accreditation practices that depend for their completion on external reviews…[and] consensual standards, appropriately applied, would contribute greatly to quality assurance in higher education" (Creamer, 2003). The self-assessment aspect of CAS provides an opportunity for academic advisors to assess where they and their programs are in terms of standards of practice for the advising profession. I included CAS because of the broad applicability it offers, regardless of the specific task or function of a given advising position or unit. The seven basic steps of self-assessment are (a) plan the process, (b) assemble and educate the self-assessment team, (c) identify, collect, and review evidence, (d) conduct and interpret ratings using evaluative evidence, (e) develop an action plan, (f) prepare a report, and (g) close the loop. The steps in the assessments have been developed in a way that individuals or teams can complete them.

Conceptual Frameworks Summary

The NACADA Competencies Guide and the CAS Standards and Guidelines share several overlapping themes, but more importantly, they have distinct differences. The self-assessment belief of the CAS Standards and Guidelines is the primary reason I included it as a framework and NACADA's Guide. NACADA's Guidelines suggest three component areas with core

competencies in each component that academic advisors should master to support the holistic development of academic advising. The CAS Standards and Guidelines are programmatic and provide an opportunity for advisors to self-assess and determine their strengths and weaknesses. This core value of self-regulation and individual assessment is essential to include. These two frameworks allow me to understand how academic advisors view themselves and their profession and how an academic early alert technology integrates into their advising duties. This fundamental understanding of academic advisors is crucial because I have no professional experience in academic advising. Other studies on faculty, staff, or students' perceptions of early alert technologys have primarily used student development or student attrition theories. However, this study does not focus on why students do or do not remain at an institution and thus are not applicable.

History and Overview of Organization

Established in 1839 as a public land grant and the first institution west of the Mississippi River, MU is the flagship institution of the University of Missouri System with the three other campuses in Kansas City, Rolla, and St. Louis. The institution is also designated as a Doctoral University – Very High Research Activity, the highest level of research activity by the Carnegie Institute and is a member of the Association of American Universities (AAU). MU has a relatively diverse student population with 23,533 undergraduate students enrolled from every county within Missouri, 50 states, and over 120 countries in the Fall 2021 semester. In addition, the university offers more than 300-degree programs through 23 schools and colleges.

Organizational Analysis

Understanding the university's organizational structure is critical to understanding how academic advisors perceive the early alert technology. Bolman and Deal (2017) illustrate that

organizations are both the arenas for politics and the political agents with their own agendas. This illustration is supported by TAM2, with social influence and cognitive instrumental processes both contributing to whether a user is likely to adopt a technology. Academic advisors in this study are influencing other users to continue using early alert and looking for cues to continue using the technology. Academic advisors have organized the Academic Advising Leadership Council (AALC). At this leadership council, the heads of undergraduate academic advising meet regularly, discuss the utilization of limited resources, and how academic advising can be most effective for students while also meeting the demands of the institution's administration.

Structural Analysis

According to Bolman and Deal (2017), the structural framework emphasizes placing people in the correct roles and relationships, enhances and limits what an organization can do, and depends on the unique circumstances while also understanding the organization's complexities. Too often, an organization replaces a manager without altering the structural process that caused the original to fail. CEOs and other chief officers can best use their time and energy by making their organizations more efficient (Bryan & Joyce, 2007, p.1). Focusing on making the organization more efficient allows for the core issue to be identified and adequately addressed. However, hampering the efficiency of an organization are two primary sources of fundamental structural tension. The two tensions are "differentiation or how to allocate work and integration or how to coordinate diverse efforts after parceling out responsibilities." (Bolman & Deal, 2017, p. 53). These tensions are limited when utilizing vertical solutions like rules, policies, and planning systems and horizontal and more simple solutions such as meetings, task forces, and coordinating groups.

Visualizing academic advising with Mintzberg's (1979) model, we can better understand how different groups perform or support academic advising at MU. Undergraduate academic advising at MU is decentralized. Based on the decentralized structure, these advising units do not naturally communicate without the assistance of another support structure such as AALC (Mintzberg, 1979). However, the advising unit is only one part of the model. Mintzberg's model has five parts, each working and supporting other parts to achieve the organization's goals. The five parts of the model are (a) the operating core, (b) the administrative component in the middle line, (c) the strategic apex, (d) technostructure, and (e) the support staff (Mintzberg, 1979).

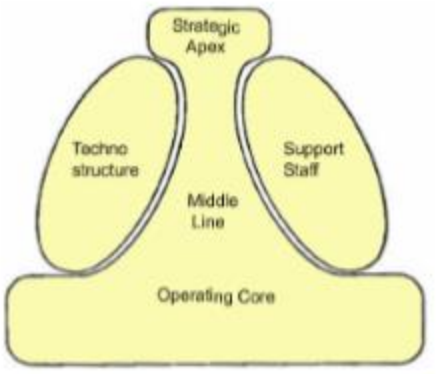

Figure 1. Mintzberg's (1979) Five Basic Elements of Organizational Structure

A large organization with a significant portion of its workforce highly educated has a professional bureaucracy (Bolman & Deal, 2017). MU meets this description as a considerable number of staff members have a terminal degree. Professional bureaucracies rely on exercising power and control through professional training and indoctrination (Bolman & Deal). However, in a university setting, there are relatively few levels of management between a faculty member and the strategic apex level. This organizational structure can leave the organization slow to respond to external pressures, with professional staff members often winning power struggles

between themselves and the strategic apex (Bolman & Deal). Bolman and Deal (2017) illustrate that this creates an organizational structure with a flat and decentralized profile. In addition, the professional bureaucracy at MU has most of its work done in a divisionalized form. An organization with a divisionalized form has most of its work completed in quasi-autonomous units (Bolman & Deal, 2017). The academic advising units at MU work in a quasi-autonomous manner. The academic units are structurally separate from one another, have unique areas of expertise, and try to control from the strategic apex while the strategic apex is simultaneously wanting oversight. This divisionalized form can provide economies of scale, enhance responsiveness, and help to manage economic risks.

Implications for Research in the Practitioner Setting

The purpose of this study is to understand the unique perspectives and experiences of academic advisors who use an early alert technology at their institution. Academic advisors are one of the major stakeholder groups who use early alert. The other two main groups that use early alert are faculty members and students. Both groups have had a significant number of studies conducted evaluating their perspectives, but the literature thus far has largely ignored the perspectives of academic advisors. Stakeholders are critical for technology success, and it "is important to receive their feedback, understand core tasks, and provide support resources to review, and integrate tasks" (Balser, 2018, p. 34). Analyzing the perceived usefulness of an early alert technology by applying the theoretical extension of the TAM2 framework provides an opportunity to incorporate the academic advising stakeholder perspective of the early alert technology. In addition, this also presents a starting point for other universities and future studies to transfer these findings for their needs.

Summary

Early alert studies have so far focused on the perspective of faculty and students while overlooking academic advisors. However, with the advancement of academic advising practices, particularly in the last few decades and the brisk pace at which technology advances, ignoring the perspective of academic advisors can no longer be accepted. Conducting interviews with academic advisors while utilizing the TAM2 framework will help provide an understanding and an insight into the unique perspectives of academic advisors. This perception can be shared and used by university leadership, national and regional advising associations, and organizations that disseminate early alert best practices. These findings can be transferred to others to review organizational structure and processes, policies, and expectations. In addition, these findings have been integrated with scholarly sources to assist in the transferability of this study.

Section Three-Introduction to Scholarly Review

This chapter synthesizes the literature regarding crucial aspects of the study, focusing on the Technology Adoption Model 2 (TAM2), a historical and holistic overview of academic early alert technologys on college campuses, and the role of academic advisors within early alert technology. Understanding TAM2, the history of academic early alert technology, and academic advising activities guide the significance and applicability of this study. Efforts to support student success in higher education through various retention initiatives have encountered varying levels of success. Understanding the causes of student attrition and retaining students is a financially wise decision as institutional resources continue to become scarce (Tinto, 2006). One such retention initiative is early alert technology. Early alert technology is "a systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts" (Tampke, 2013, p. 524). Previous studies are inconsistent with one another when analyzing the efficacy of early alert systems (Dwyer et al., 2019; Sneyers et al., 2017). Arnold and Pistilli, (2012), Cai et al., (2015), Dwyer (2017), Faulconer et al., (2013), Villano et al., (2018) found a positive correlation between utilizing an early alert system and student retention. Others did not find any correlation or found a positive but not statistically significant correlation between using an early alert system and retaining students (Horn et al., 2015; Hudson, 2006; Tampke, 2013; Eimers, 2000). Additional studies have found that the early alert system's success depends on how the system is implemented (Balser, 2018; Fletcher, 2012; Simons, 2011). Still, other studies focused on the perspectives of students and faculty members utilizing academic early alert systems (Arnold & Pistilli, 2012; Atif et al., 2020; Faulconer et al., 2013; Marcal, 2019; Velasco, 2020). This study aimed to understand academic advisors' unique

perspectives at a large four-year public flagship university in the Midwest that uses an early alert technology and how they perceive its usefulness.

Technology Acceptance Model 2

Examining the perceived usefulness of early alert by academic advisors with TAM2 allows for a nuanced understanding of how the technology is perceived by those who use it (Venkatesh & Davis, 2000). Venkatesh and Davis illustrate that TAM2 expands upon TAM by incorporating social influence processes such as subjective norm, voluntariness, and image. In addition, TAM 2 also includes cognitive instrumental processes such as job relevance, output quality, result demonstrability, and perceived ease of use. These constructs all contribute to the perceived usefulness, which contributes to the likelihood of a technology being adopted (see Figure 1).

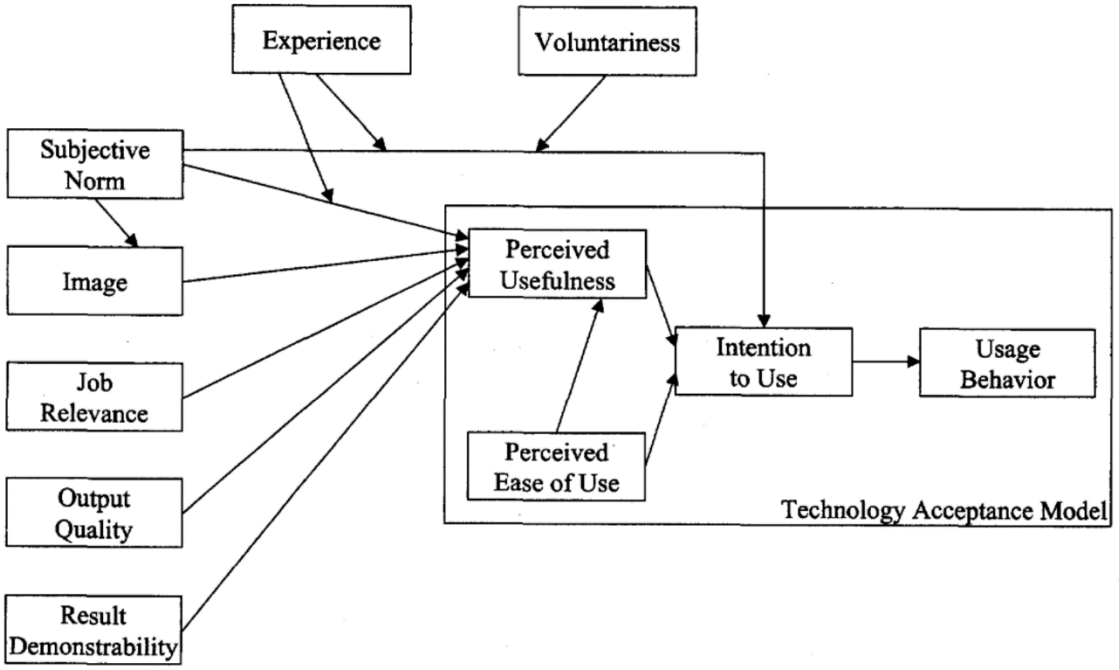

Figure 1. Venkatesh & Davis (2000) TAM2

In addition to predicting the likelihood of a technology being adopted, these theoretical constructs explain how academic advisors view themselves, students, and early alert technology working together to achieve positive student success. Using TAM2 allowed me to develop specific recommendations that institutions and advising units can incorporate into their best practices. This will better support academic advisors as they experience professional growth and various challenges by participating in retention initiatives connected to early alert technologys.

Social Influence Processes

The first of the two theoretical constructs comprising TAM2 focuses on the social aspect of whether a technology is adopted or not. These processes are (a) subjective norm, (b) voluntariness, and (c) image. The theoretical basis for the subjective norm is that a person cares about the perceptions of those meaningful to them and whether they should participate in a behavior. TAM2 assumes "voluntariness is a moderating variable, defined as users perceive a technology adoption to be non-mandatory" (Venkatesh & Davis, 2000). The final social influence process is image. Image in TAM2 is regarded as the perception of a user's stance in the group and how adopting or not adopting the technology relates to their status within said group. In addition, the influence of important people adopting or not adopting the technology contributes to whether an individual perceives adopting technology as beneficial to them.

Cognitive Instrumental Processes

The second theoretical construct of TAM2 concerns how people cognitively compare what the technology can do versus what they, as individuals, need to accomplish. Four cognitive instrumental determinants contribute to a technology's perceived usefulness: (a) job relevance, (b) output quality, (c) result demonstrability, (d) and perceived ease of use. Job relevance is how a person perceives the technology related to the job they need to accomplish. Output quality is

concerned about what is produced and the quality of what is produced rather than how well technology can produce. Result demonstrability is an individual's ability to readily attribute positive outcomes to the technology and is positively correlated with perceived usefulness. As a user becomes more likely to associate positive job results with the technology, the user is equally likely to perceive the positive usefulness of the system. Finally, perceived ease of use is a carry-over from TAM as a direct determinant of perceived usefulness (Venkatesh & Davis, 2000).

TAM2 Summary

TAM2 retains everything in TAM and then expands upon it with social influence and cognitive instrumental processes. The social influence processes are concerned with how users perceive themselves adopting a technology and how other important people perceive them. Venkatesh and Davis (2000) reported that as time passed, individuals became less concerned with the social influences and relied instead more on their experience with the technology. Cognitive instrumental processes are concerned with how individuals judge the performance of the technology with what they know needs to be done. These judgments about the technology's usefulness are affected by matching job goals with job relevance. As an individual's experience with a technology positively correlates to result demonstrability, the cognitive instrumental processes remained significant over time compared to the social influence processes.

Academic Early Alert

Widely discussed in today's higher education world, student retention and graduation rates are intensely examined topics. The importance of improving retention and graduation rate is incited by the ever-decreasing amount of funding institutions receive from state and federal governments (Bell et al., 2018). While relatively new regarding the software platforms available, academic early alert technology has conceptually existed since the 1970s (Astin, 1987, Varney

2008). These early alert technologys are defined as "a systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts" (Tampke, 2012, p. 524). Since the seminal publication of Simons' (2011) National Study of Early Alert, there has been a marked increase in the number and quality of rigorous studies documenting the academic early alert technologys in practice.

History of Academic Early Alert

Since the founding of the first institution of higher education in British North America, the relationship between universities and students has changed considerably (Geiger, 2015; Lee, 2011). Initially, the courts viewed this relationship as *in loco parentis*, where the university would act as a guardian when the student enrolled in courses, both on and off-campus (Lee, 2011). This legal doctrine was mainly held until the 1960s when student protests regarding the Vietnam War and the Civil Rights Movement (Patel, 2019). Student activism from these protests gradually eroded *in loco parentis* and helped establish due process for students regarding on-campus issues. Universities then changed to a bystander mentality, with the courts viewing students as adults who were responsible for themselves (Bradshaw v. Rawlings, 1980; Lee, 2011). However, courts were hesitant to altogether remove universities from all liability related to their students. Instead, the courts began to charge institutions with a limited duty, where institutions are liable for negligence under various circumstances (Kaplin and Lee, 2014). This limited duty imposed by the courts has led to the current facilitator era. The facilitator era focuses on the institution providing reasonable opportunities to the student instead of guaranteeing outcomes, this contemporary era is a compromise between *in loco parentis* and bystander (Patel, 2019).

Identifying At-Risk Students

At the beginning of the facilitator phase during the 1980s, there was an overlap with the introduction of Performance-Based Funding (PBF) Models and increased studies related to student success and student attrition (Astin, 1987; Bell et al., 2018; Varney, 2008). Meeting specific funding requirements and additional research surrounding student persistence identified several attributes contributing to a student's likeliness of obtaining a degree. Pre-entry attributes like family background, academic interests, motivation, and financial factors can all impact a student's ability to persist (Barefoot, 2004; Bean, 1990; Tinto, 1975). Institutions can also determine a student's potential level of academic preparedness based on pre-enrollment data such as high school GPA, standardized test scores, first-generation status, and Pell eligibility, typically identified when a student applies to an institution (Geltner, 2001; Murtaugh et al., 1999). Identifying students as they apply to college is now only the first step. Institutions can now predict student success at their institution based on factors after a student has enrolled. Student success can also be predicted based on when and how often a student logs into an online course, submits assignments, and attends classes (Brooks et al., 2014). Recently, the development of predicting student success is predicting a student's success based on the behaviors and attributes of similar students from previous years in the same academic program and or course(s), using predictive analytics (Picciano, 2012). Institutions [and corporations] can update these predictive models regularly, which can regularly increase their effectiveness (Ekowo & Palmer, 2016).

Previous Academic Early Alert Studies

Organizing previous studies regarding academic early alert systems into four primary groups (a) course(s), (b) campus, (c) multiple universities, and (d) other studies assists with understanding the work already done (Velasco, 2020). Within this grouping, there are specific

research domains with the most frequent publications being (a) perceptions of the early system from various key stakeholders such as faculty, staff, and students, (b) inventory the current status and numbers of early alert systems, (c) analyzing best practices in implementing and adopting early alert systems, and (d) evaluating the effectiveness of early alert systems and their ability to assist with student success and retention initiatives. In the past decade, there has been a noticeable increase in rigorous studies analyzing early alert systems (Velasco, 2020). The increase in studies, particularly since Simons in 2011, can only help our collective understanding of what it takes for academic early alert systems to continuously improve their effectiveness in supporting student success.

Timing of Early Alert Interventions

Research has consistently shown that academic interventions typically work better the earlier they are conducted, with particular effectiveness during the first four weeks of the academic semester (Levitz & Noel, 1989; Pascarella & Terenzini, 1992; Upcraft et al., 2005). However, a consistent or standard time frame does not appear when institutions deploy interventions from their academic early alert technology (Barefoot et al., 2012; Simons, 2011; Velasco, 2020). This inconsistency between when the literature suggests the ideal time to deploy academic interventions and when they occur could stem from many sources. The first possible reason could be based on the capacity of faculty and staff members. For example, conducting academic interventions and other required daily functions at the beginning of the academic semester. Another potential reason that academic interventions are not aligning with the literature could be due to the structure of assignments in a class. If faculty have not indicated how students in their course are doing or if there have been no assignments assigned at that point

in the semester, there would be nothing to indicate to staff and academic advisors that an intervention needs to occur.

The Role of Academic Advisors in Early Alert

Academic advising has made considerable changes during the last 50 years (Himes & Schulenberg, 2016). Further, academic advising processes can differ significantly from institution to institution and differ from different advising units at the same campus, depending on the level of decentralization (Gordon et al., 2000). With the establishment of NACADA in the 20th century, academic advisors have had the opportunity to more easily share advising best practices, attend academic advising specific conferences, and rigorously critique academic advising research in academic advising journals. The next stage of evolution in academic advising is incorporating technology (i.e., early alert) into the advising process.

Typically, staff members support or conduct early academic alert interventions (i.e., academic advisors; Barefoot, 2004). This charge makes sense. Faculty members are the experts within their classroom and thus are most likely the first to identify when a student is showing signs of struggling academically. Staff members, again and more specifically, academic advisors, are the individuals who are best situated to support students and connect them with resources both on and off-campus. The NACADA Academic Advising Core Competencies Guide and CAS's CAS Standards and Guidelines iterate the importance of academic advisors' awareness of campus and local community resources (CAS, 2014; Farr & Cunningham, 2017). In addition to being notified of students who may need academic assistance, academic advisors are also well positioned in early alert technologys to be aware of other nonacademic situations where students may need additional support to succeed while attending the institution (Dwyer, 2017).

Summary

For better or worse, higher education institutions are now expected to do more for their students with relatively less funding than they have had at any point this far in American history. As a result, there have been many studies and countless researchers focusing on student success and, more recently, an increase in focusing on academic early alert technologys. However, a gap in the literature surrounding the perceptions of academic advisors using early alert has appeared. This gap in the literature has coincided with decreased funding allotments given by state and federal governments. This study provides a well-timed opportunity for institutions to gain an insight into the perceptions of academic advisors as end-users of the academic early alert technology. Conducting interviews and focus groups, analyzing their unique lived experiences, and making meaning of their responses is a way to share potential challenges and opportunities for growth. This study contributes to the existing literature of academic early alert technologys by contextualizing relevant scholarly sources while at the same time providing opportunities for the findings to be used as implementation and adoption best practices.

Section Four: Contribution to Practice

Academic Advisors' Perception of a Fully Implemented Academic Early Alert at a 4-year, Public, Flagship Institution in the Midwest

An executive summary was chosen to facilitate turning the studies' theoretical findings into practical functionality. As institutions come under increasing pressure to do more with less funding, many have turned to academic early alert technologies (EA) to help with their traditionally low retention and graduation rates. Since Simon's (2011) seminal EA study there has been a substantial increase in the number of peer-reviewed articles studying EA. However, the literature has so far not explored the perspectives of professional academic advisors.

Framework & Methods

This study utilizes the Technology Adoption Model 2 (TAM2) to understand academic advisors' perceived usefulness of EA (Venkatesh & Davis, 2020). TAM2 was originally developed to predict the likelihood of end-users adopting a technology. TAM2 provided the best opportunity to understand academic advisors' perceived usefulness, whereas other frameworks focus on predicting the likelihood of user adoption only.

Five interviews and six focus groups were conducted with 21 participants self-identifying as professional undergraduate academic advisors at the University of Missouri and who also use EA. Faculty advisors were not asked to participate due to differences in HR advising duties and expectations, though they do provide a unique mentoring opportunity for their advisees. To prevent potential biased responses, advisors were separated into specific groups depending on supervising responsibilities.

Answers to Research Questions

RQ1: How do academic advisors perceive early alert technology usefulness for their job duties?

Academic advisors perceive EA as being very useful for their job duties. There are limits to the perceived usefulness. Working with an advising caseload outside of 100 to 350 advisees, advisors perceived the benefits of the technology the least and requiring redundant work or not having time to utilize EA. Advisors shared the technology assists in advising students holistically and identifies students in the murky middle, who otherwise would go unnoticed. Unfortunately, advisors noted during the busiest time of the semester, they must choose between core advising duties and using EA. Early alert was discussed as a responsibility that loses priority.

RQ2: How do academic advisors perceive the usefulness of an early alert technology relating to student success?

Academic advisors repeatedly emphasized as more individuals and departments on campus use EA, the more beneficial that the tool becomes and the more holistically they can support students. Holistically supporting students was a major positive benefit of the tool, this includes being able to proactively outreach to students, refer students to resources on and off campus, and take personalized notes for individual students. However, one area of concern is the inconsistency in which they view faculty participation and usage of early alert within their classrooms. Advisors illustrated faculty participation is perceived as haphazard even within the same academic unit. In addition, some faculty are perceived using EA as a scare tactic to encourage more or better academic performance.

RQ3: How would academic advisors improve an already adopted early alert technology as a technology?

Advisors indicated a need for greater integration between their email and EA. Next, advisors made it clear that vendors should incorporate two-way text messaging as a standard feature in their products. Advisors noted several quality-of-life updates needed such as consistent naming of features and incorporating basic filter options when generating reports. Have opportunities to share best practices with other advisors at their own campus but also nationwide was a desire. Finally, advisors earnestly need assistance regarding when and how they conduct early alert outreach; particularly during the preregistration timeframe or if additional institutional initiatives require their participation.

Recommendations for Practice

Institutional enhancements:

- Communicate early alert intervention outcomes to academic advisors; senior institutional stakeholders or the office responsible for maintaining the technology can share this information on a yearly basis.
- Facilitate the sharing of best practices. Often advisors are not aware they have the best practices and may need to collaborate with the coordinating office to highlight specific workflows.
- An advisor shared anecdotally receiving 70%-90% response rate through email. Further studies should be conducted to determine if there is an industry best practice for student communications or if an anecdotal experience was captured.
- Senior institutional leadership should work with faculty senate to develop a plan for all undergraduate faculty members to use EA consistently as part of classroom management.
- Share best practices on how to use early alert (i.e. not using EA as a scare tactic).
- Institutions should hire dedicated student support coaches to assist with early alert outreach and further determine the role of academic advising in early alert outreach and tool use

Vendor enhancements:

- Enhanced filtering options when generating reports.
- Ability to determine if another individual is working on a specific tracking item and where they are in that process.
- Quality-of-life updates that remove inconsistent naming throughout the platform and removal of old features no longer recommended. These updates enhance the user experience without dramatically changing the technology itself.
- Creation of smart tracking items, such as tracking items automatically triggered if one or more tracking items are created for students.
- Automatically indicate which students need outreach for that day/week.
- Vendor-hosted focus groups that intentionally include professional academic advisors.
- Collaborate with other vendors to create standardized terms and keywords for EA.

Conclusion

The academic advising perspective provides a critical lens through which EA can be understood. Advisors are identified and enlisted to facilitate an institution's strategic initiatives. Advisors have critical interactions with their students throughout a student's time at the institution. However, there have not been assessments of EA that included academic advisors' perspectives. Academic advisors are generally appreciative of EA as a part of their job, perceive the tool as making them better at their job, and viewing their advisees more holistically. Institutions should consider how much is being asked of academic advisors on their campus and thoughtfully review how best to support advisors regarding early alert technology.

Section Five- Contribution to Scholarship

Abstract

This case study explores professional academic advisors' perceived usefulness of a fully implemented academic early alert technology at a four-year, public, flagship university in the Midwest. Academic early alert technology has increasingly become more common at colleges and universities during the past two decades, followed by an increasing number of rigorous studies regarding the effectiveness of these systems and the perceptions of key stakeholders with the notable absence within the literature of academic advisor's perceptions. This study focuses on that gap and analyzes how academic advisors perceive early alert technology usefulness for their job duties.

Professional Academic Advisor's Perceived Usefulness of Academic Early Alert Technology

Colleges and universities within the United States have traditionally struggled to graduate a substantial number of their undergraduate students (Geiger, 2015). In addition, throughout the history of higher education, institutions have been charged with varying degrees of responsibility for the students enrolled (Lee, 2011). Beginning with *in loco parentis,* where institutions could dictate a student's actions regardless if the student was actually on campus, and then transitioning to a facilitator mindset that focuses on developing the student with fewer edicts concerning student behavior (Lee, 2011). This shift in an institution's ethos in caring for students occurred concurrently with a decrease in state and federal government funding. The reduction in government funding is juxtaposed with the increased use of performance-based funding (PBF) models (Alshehri, 2016; Archibald & Feldman, 2011; Bell et al., 2018; IPEDS, n.d.).

During the past two decades, academic early alert technology has become an increasingly common way for institutions to track student retention rates (Simons, 2011). Tampke defines early alert as "a systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts" (2013, p. 524). Researchers have spent a considerable amount of time studying early alert technology, especially its effectiveness in effect student retention, persistence, and grade outcomes (Cai et al., 2015; Hudson, 2006; Simons, 2011; Tampke, 2013; Velasco, 2020). Others have studied academic early alert technology and its relationship with and between people, organizational structure, and processes (Balser, 2018; Carver, 2020; Dwyer, 2017; Simons, 2011; Tsai et al., 2020). However, a considerable gap in the literature has emerged; the perception of academic advisors as end-users of academic early alert technology remains uncharted, this study explores that gap.

Literature Review

Peer-reviewed studies on student retention and ways to positively influence it have occurred for over 60 years (Iffert, 1958). This substantial literature includes studies (a) analyzing the economic importance of increasing retention rates (Tinto, 2006), (b) the varying statistical significance of early alert technology efficacy (Dwyer et al., 2019; Sneyers et al., 2017;), (c) the intersectionality of technology, people, and processes (Balser, 2018; Fletcher, 2012; Simons, 2011; Tsai et al., 2020), and (d) has illuminated the perspectives of students, faculty, and key stakeholders who utilize academic early alert technology (Arnold & Pistilli, 2012; Atif et al., 2020; Faulconer et al., 2013; Marcal, 2019; Velasco, 2020). However, the perception of professional academic advisors is noticeably absent. This study applies the theoretical framework of the Technology Adoption Model 2 (TAM2) to help understand academic advisors' perception of academic early alert technology.

Technology Adoption Model 2

TAM2 possesses the core concept of TAM and expands upon the original Technology Adoption Model by incorporating social influence and cognitive instrumental processes (Venkatesh & Davis, 2000). These processes contribute to a technology's perceived usefulness by end-users and allow an administrator to predict the likelihood of successfully adopting a given technology. The social influences of TAM2 are (a) subjective norm, (b) voluntariness, and (c) image. Based on how people view the respective technology, the constructs illustrate what/if any social pressure(s) exist to influence technology usage. The second set of theoretical constructs is the cognitive instrumental processes, composed of (a) job relevance, (b) output quality, (c) result demonstrability, (d) and the perceived ease of use positively correlates to the perceived usefulness of a technology.

Academic Early Alert

Student retention remains a crucial measuring point when regarding the efficacy of academic early alert technology. However, early alert has been practiced in higher education for at least 50 years (Astin, 1987; Varney, 2008). Academic early alert is defined as "a systematic method of recording and communicating student behaviors that contribute to student attrition that can aid in student retention efforts" (Tampke, 2012, p. 524). Simons' (2011) seminal National Study of Early Alert did the literature began the uptick of rigorous studies evaluating and analyzing academic early alert technology.

History of Academic Early Alert

The courts, and institutions, initially viewed the relationship between an enrolled student and the respective institution as a guardian and minor (Geiger, 2015; Lee, 2011). This perspective lasted from the founding of higher education institutions in the United States to the 1960s when students began protesting the Vietnam War and the Civil Rights Movement (Patel, 2019). Gradually, institutions and the courts started viewing students as adults who were and could be responsible for themselves (Bradshaw v. Rawlings, 1980; Lee, 2011). This change in perspective helped to lead the way to the current facilitator era where institutions no longer guarantee outcomes but instead promise reasonable results (Kaplin and Lee, 2014; Patel, 2019)

Identifying At-Risk Students

This change in perspective for student responsibility overlapped with an introduction to Performance-Based Funding (PBF; Bell et al., 2018). These models identified specific requirements and metrics that institutions would need to achieve and obtain funding from their state government. Students are also identified based on their likelihood of being retained before enrolling. Attributes and characteristics like family background, academic interests, motivation,

and financial factors can all impact a student's ability to persist (Barefoot, 2004; Bean, 1990; Tinto, 1975). A combination of these pre-entry attributes and the level of academic preparedness submitted when applying to institutions allows an institution to identify at-risk students before they even step foot onto campus (Geltner, 2001; Murtaugh et al., 1999). However, the evolution of early alert technology now allows institutions to identify at-risk behavior in almost real-time based on when students log into an online course, submit assignments, or attend class (Brooks et al., 2014). The increased ability to track student progress, or lack thereof, now allows institutions to compare a student to similar students in the past and predict the likelihood of being retained based on those past performances in conjunction with their real-time behavior (Picciano, 2012). Institutions (and the corporations that own their own academic early alert technology) can update these predictive models regularly, increasing their effectiveness at predicting student retention (Ekowo & Palmer, 2016).

Previous Academic Early Alert Studies

Previous studies analyzing academic early alert can be organized into four primary groups that studied (a) course(s), (b) campus, (c) multiple universities, and (d) other studies assisting with understanding the work already done (Velasco, 2020). Four specific research domains appear most frequently, (a) perceptions of the early system from various key stakeholders such as faculty, staff, and students, (b) inventory of the current status and numbers of early alert systems, (c) analyzing best practices in implementing and adopting early alert systems, and (d) evaluating the effectiveness of early alert systems and their ability to assist with student success and retention initiatives.

Timing of Early Alert Interventions

Time and time again, the literature illustrates conducting academic interventions earlier in the semester is most effective, with a significant increase in effectiveness during the first four weeks (Levitz & Noel, 1989; Pascarella & Terenzini, 1992; Upcraft et al., 2005). However, this does not appear to translate into practice when institutions deploy these various interventions (Barefoot et al., 2012; Simons, 2011; Velasco, 2020). The inconsistency likely stems from when in the semester asking faculty to give academic feedback through early alert, when staff and academic advisors can provide outreach, or alerts have not been raised on a student until a critical point in the semester has already passed.

The Role of Academic Advisors in Early Alert

The academic advising profession has experienced significant growth since the beginning of the facilitator era (Himes & Schulenberg, 2016). Unsurprisingly, academic advising processes differ significantly across the nation and from one advising department to another on the same campus (Gordon et al., 2000). The establishment of NACADA has allowed academic advisors to share best practices, attend advising-specific conferences, and critique peer-reviewed articles on academic advising research. Separately, academic advisors are charged with supporting or conducting early alert interventions (Barefoot, 2004). While faculty are the experts inside the classroom, academic advisors have traditionally been responsible for ensuring students can connect to resources across campus and the local community. In addition, academic advisors are also well positioned within early alert processes to be aware of nonacademic situations that may require the student to receive additional support (Dwyer, 2017).

Summary

For better or worse, universities and colleges must do more with less than at any point in American history. Studies have increasingly focused on academic early alert technology as the proverbial silver bullet to fix student retention and graduation rates. Still, they have unintentionally left out the academic advisor's perspective on these systems. This study provides an opportunity for institutions to understand better the unique perspectives academic advisors have of the system they utilize in their daily work. This study contributes to academic early alert literature by contextualizing unique perspectives, identifying challenges and areas for growth, and sharing findings that others can use for their early alert implementation and adoption of best practices.

Research Questions

Three research questions guided this study:

1. How do academic advisors perceive early alert technology usefulness for their job duties?
2. How do academic advisors perceive the usefulness of early alert technology for student success?
3. How would academic advisors improve an already adopted early alert technology as a technology?

Methodology

For this study, I conducted a case study. A case study is helpful because it allows a researcher to understand an individual’s subjective experience (Merriam, 1998). The research questions that I initially identified were modified throughout the study as findings were shared by research participants (Stake, 1995). This case study occurred at one institution that utilizes one academic early alert technology. The institution has a decentralized advising model where

advising processes can differ from one academic unit to the next for the same advising process. This variety in advising processes enhances the external validity of the findings (Merriam, 2009).

Setting and Participants

This case study's setting was the University of Missouri – Columbia (MU). MU is a four-year, public, nonprofit institution in the Midwest established in 1839. I choose this institution because of the relative ease of access to potential research participants and my familiarity with the institution's academic early alert technology.

Participants for this study are or were self-identified as professional academic advisors from all eight undergraduate academic units. I began recruitment for this study with an email to the Academic Advising Leadership Council (AALC) asking for an opportunity to share the scope of the study and if the heads of advising for the respective advising units would encourage their advisors to participate in the study. Following this meeting, I had a recruitment email (see Appendix A) sent to the Advising Forum's advisor listserv, where all advisors at the university would get the offer to participate. The focus of this study was to understand the perspective of professional academic advisors. Faculty advisors were not specifically asked to participate in this study. Faculty advisors provide a unique opportunity to mentor their advisees. However, the job duties between faculty and professional advisors can differ significantly and were not targeted for this study (Hemwall, 2008).

A total of 13 focus groups were organized, but due to no participant selection or participants backing out, six focus groups were conducted along with five interviews. Only one participant had experience with another academic early alert technology. The same participant also shared using two academic early alert systems that were paper-based. The academic early alert technology evaluated in this study is internet-based. Once participants had selected a

preferred date and time, they were sent email invites along with the consent form (see Appendix B) and included a link to a survey where they could submit their demographic information (see Appendix C). Focus groups and interviews were recorded by Zoom, lasted on average 45-60 minutes, and used the same altered questions (see Appendix D) from the original questions of TAM2 (see Appendix E).

Data Collection

This study set out to understand the perception of academic advisors that use early alert technology as part of their job duties. Conducting focus groups allowed participants to share perspectives, validate or share conflicting experiences, and discuss the question in a way that enhanced the existing dialogue- conducting interviews allowed those who participated to share rich and detailed descriptions of their experiences. Five interviews and six focus groups were conducted. To further prevent biased responses from being shared by the academic advisors, two focus groups and one interview for heads of advising were set aside to allow the participation of the supervisors without the fear of the potential consequences of sharing negative feedback. The separation of academic advisors from their respective heads of advising proved beneficial as the heads of advising could share experiences regarding the utilization of the system's data reporting feature, and advisors could share perspectives on the expectations placed on them by others.

I utilized a semi-structured interview protocol. For example, incorporating questions from the TAM2 framework (Venkatesh & Davis, 2020) while asking follow-up questions to understand the participant's point of view, provide additional clarity in responses, or ensure that I was not making assumptions in understanding their response (Merriam, 2009). I also took notes of observations, themes, and personal biases that emerged during the focus groups and interviews.

Data Analysis

The focus groups and interviews were transcribed initially via Zoom's transcription tool, and then I edited them for accuracy and clarity. After finishing the transcription, I performed a thematic analysis that developed the coding scheme inductively, where I reread the transcripts repeatedly to identify themes and patterns raised by participants. This process of interpretation and identifying relationships between concepts is key to data analysis (Stake, 1995). Analyzing the responses from focus groups and interviews allowed me to understand the experiences of the academic advisors and collect data that answered the study's research questions. Quotes and findings shared by participants were limited to the amount of editing so that the original meaning was not distorted but still allowed for the removal of redundant words, such as "like" or "you know" or where filler words were used but did not contribute to the overall idea of what was shared.

The thematic analysis allowed me to develop codes from the transcripts of the five interviews and six focus groups, along with my observational field notes. Coding is making notes alongside important information that may help answer research questions (Merriam, 2009). Through the iterative process of thematic analysis, I reflected on participant responses, emerging themes, and codes, continuously refining themes and codes as they answered or produced new research questions (Creswell, 2014; Merriam, 2009). During this iterative process of thematic analysis and as I developed codes and themes, confirmed my interpretation, clarified ambiguous or confusing responses, and confirmed if any personal bias influenced my understanding of responses through respondent validation (Merriam, 2009).

Findings

Four themes were identified that answered the three research questions: How do academic advisors perceive early alert technology usefulness for their job duties? How do academic advisors perceive the usefulness of early alert technology for student success? Finally, how would academic advisors improve an already adopted early alert technology? These four themes, in alphabetical order, are: (a) experience, (b) job relevance, (c) perceived ease of use, and (d) subjective norm.

Experience

The perceived usefulness of an academic early alert technology anecdotally appears linked to the length of time an academic advisor has used early alert and their perceptions of that system. An advisor from the college of engineering shared “When [the early alert technology] first started, I felt like it was too much hand holding for students. Now, we’ve had it for a while I feel like students seem appreciative that I care that much to reach out and ask, “What can I do to help?”. This sentiment was shared among the academic advisors that I interviewed that those new to early alert or new to the technology felt usage is dictated towards them or initially viewed and shared their perception of academic early alert as being unnecessary handholding for college students. However, as advisors gain more experience with the technology, the less likely they perceive it as an opportunity to police or micromanage students and more as an opportunity for practicing proactive advising approaches. For example, one academic advisor from the College of Agriculture, Food and Natural Resources (CAFNR) in an interview shared “the technology allows advisors to connect students to resources before issues arose or a critical point in the semester had passed”.

Academic advisors who participated in the study and had the most experience with the early alert technology on campus shared what they perceived as a shift in how the campus used academic early alert technology. This shift seemed most apparent to the academic advisors during an inflection point when there was a change in who was responsible for maintaining the institution's early alert technology. One academic advisor, from the College of Education and Human Development, illustrated this shift in why the campus used early alert technology from assisting advisors with already existing academic intervention processes to focusing on the closure of various tracking items seemed to overlap with the transition from needing to implement the technology to adopting the early alert technology en masse at the institution. Sharing specifically "I was on the initial launch and I feel like it [the early alert technology] has changed and will continue to change based on who is running it.". Advisors were in general agreement that the perceived change in use of why and how academic early alert is not necessarily a negative outcome but did increase the confusion and miscommunication regarding the tool's purpose with their daily usage and how the institution used the data strategically. Academic advisors with the most experience using early alert as well as the advisors with supervisory experience recommended enhancing the report feature. Improving the report feature will be discussed in greater detail in the implications section.

Job Relevance

One of the most apparent themes from this study was the perceived job relevance for academic advisors using academic early alert technology. Venkatesh and Davis (2000) state Job Relevance "exerts a direct effect on perceived usefulness". Regardless of experience with the tool, perceived ease of use, or perception of how normalized the technology is, the overall perception of job relevance was seen unanimously as highly relevant to their job. The only

deviation, and a slight deviation at that, was with academic advisors who were a part of a tight-knit academic program or had an advising load of under 100 advisees. Another academic advisor from the College of Education and Human Development emphasized that "early alert technology was critical in holistically assisting their students, working with and identifying students in the murky middle who otherwise are likely to just surviving but not thriving and going unnoticed without the assistance of the technology". However, advisors shared that they often found completing the outreach challenging due to not always knowing if they were the person primarily responsible or if someone else was. The implications section will discuss this enhancement in greater detail.

An advisor from the College of Arts and Science discussed that academic early alert has become more relevant as additional individuals and departments utilize the technology. This will be discussed in greater detail in the subjective norm theme. However, regardless of how much an academic advisor may or may not perceive usefulness of an academic early alert technology, there are regular times in a semester where they are simply too busy with other advising duties to utilize the technology.

Perceived Ease of Use

The perception regarding how academic advisors found the ease of use of the academic early alert technology was the most mixed of the four themes. According to TAM2 framework, Perceived Ease of Use directly impacts a user's Perceived Usefulness and their Intention to Use. While most of the participants thought the tool was generally relatively easy to use, there were specific technology features that were consistently identified as being challenging. This sentiment was concisely worded by an advisor from the college of business saying

> I don't find it [early alert technology] hard. But there are some challenges. I think where it becomes challenging is trying to implement a universal code of dictionary words. There are also points where an issue is resolved, and we had to come up with ways to memorize which button to press as a as a solution. Overall, the design is decent enough that it does get to where it needs to be.

Advisors specified features, mentioned, and identified regardless if they found the tool universally easy to use or not. Three areas were found to be challenging (a) generating reports and the effort required to make developing explanations of data within the reports, (b) filtering and creating lists for students, particularly utilizing student attributes that are imported into the technology, and (c) how tracking items were supposed to be resolved. Academic advisors were almost unanimous that except for the above issues, they felt that academic early alert technology did what they wanted, was easy enough to accomplish what they wanted and that the expectations for them to use the technology were clear and understandable. One of the ways academic advisors shared how the technology could be easier to use was if the same words were used throughout the platform to describe the action being taken in different places. This will be described in greater detail in the implications section.

Subjective Norm

As previously stated, academic early alert technology has already been widely adopted amongst the undergraduate academic units and has been incorporated into the job descriptions and expectations of the professional academic advisors on campus. However, Venkatesh and Davis (2000) illustrate that even if a technology is mandatory, users will still have varying usage levels if they are unwilling to comply with mandates. The technology’s usage rates differ from one academic advisor to another, just as the academic early alert technology's usage rates differ

from one academic unit to another. There appear to be three primary factors for this difference in usage: (a) the size of the academic advising case load, (b) the timing of the semester, and (c) the specific tracking items and other early alert interventions facilitated within the respective academic unit.

The size of the academic advisor's caseload influenced the usage of the academic early alert technology. This influence was most noticeable at the extremes of advising caseload sizes. When advising caseloads were under 100 and over 400 advisees, academic advisors were less likely to use the technology than advisors with caseloads within this range. An academic advisor from the College of Business illustrated that when their advising caseloads were under 100 advisees, they felt they could already meet and have conversations regarding academic struggles or other concerns. Therefore, they did not need the assistance of early alert technology compared to when they had a larger caseload.

When advising caseloads were more significant than 400, academic advisors felt insufficient time was available to provide additional outreach or conduct follow-up work outside of the course registration or other primary advising responsibilities. An advisor from the College of Engineering emphasized the time management aspect of the technology saying "sometimes I have to go an individually record notes and then send an email. Now that we've had early alert for a while, it's a much more positive experience and students seem to really appreciate the outreach". Closely related to the size of an advising caseload, the timing of the semester was an essential factor if academic advisors felt they could participate in early alert or other strategic initiatives. The advising heads independently and unanimously reiterated this sentiment in the focus groups and interviews, that early alert is regrettably, but often, the first thing academic advisors stop doing when the amount of time is limited. For example, one advising head shared

> That is a morale crusher…advisors tend to be the do-good honor students, rule followers; we like rules, you know? That's a shitty feeling to know that you're dropping something, and on top of that it's already so busy that you can't breathe. You have more email than you have time to manage.

Academic advisors also repeatedly shared in their interviews and focus groups that clearing tracking items in the academic early alert technology was not always easy to understand, particularly if they should be the person doing so or when the tracking item should be cleared. While this is likely to stem from misunderstanding the process side of early alert and not specifically academic early alert technology, there are possible enhancements that the vendor and institution can make to ease the confusion experienced by academic advisors.

Discussion

The progression and mindset of student success at American institutions of higher education has reached an intersection with the rapid development of technology of our society. While students may no longer attend a university solely for the social benefits, institutions are still heavily invested in their student's success. Previous early alert technology studies found implications for practice. The four major themes from this study substantiate the findings of previous studies while developing area within the early alert technology literature that includes the perspective of the academic advisor. These themes and the framework used within this study affirm the intersectionality that exists between technology, people, structure, and processes as outlined by Balser (2018), Fletcher (2012), Simons (2011), and Tsai et al., (2020).

This study expanded the number and type of key stakeholders that utilize early alert technology as outlined by Arnold & Pistilli (2012), Faulconer et al., (2013), Marcal (2019), and Velasco (2020). Previously studies have repeatedly illustrated the importance of early alert being

early. The timing of when early alert is used was not a primary factor of this study but academic advisors did explain how their use of early alert technology is often the first duty given up when other advising duties require their time and focus. Finally, other studies documented how early alert technology can track a student's pre-entry attributes, student characteristics after enrolling, and the academic progress being made, or not made, using a combination of this collected data to predict the likelihood of an individual student retaining at the institution. Again, this was not a primary aspect of early alert technology that was explored in this study, but academic advisors did repeatedly and unanimously share that one of the strengths of the technology is seeing their student in a holistic manner.

Implications

Reviewing the themes and findings from the study, I have the following implications for practice as the literature begins understanding the academic advisor's perspective on academic early alert technology: (a) Communication, (b) Campus Adoption and Expectations, (c) Resource Allocation, and (d) Technology. Each of these four themes have findings that institutions, vendors, and early alert technology administrators can incorporate into their best practices. I Utilized TAM2 as a framework to understand how and why academic advisors initially adopted early alert technology and why they continue to use the technology as their workload permits. After implementing one or more of these recommendations, the institution, academic unit, and vendor should assess how the perception of academic advisors' perceptions of the technology may have changed. Leavitt's socio-technical model suggests that when the people, process, technology, or structure changes, there is change elsewhere in the model.

Communication

Throughout the focus groups and interviews, advisors consistently needed clarification regarding how the institution uses the data generated from the early alert technology. While advisors were confident that someone must be doing something with the data collected, when pressed or asked for a specific individual, most participants guessed an academic dean or the provost. Whether senior stakeholders should share early alert data (i.e., student retention rates, student appointments, outreach results, etc.) or if sharing early alert data is a specific office's responsibility, sharing information would assist academic advisors when recording outcomes/notes in the student profile. This clarification would also help limit potential miscommunication on clearing tracking items when the issue persists.

Another common theme throughout this study was the eagerness of academic advisors to learn from their peers regarding the best practices they developed internally or learned elsewhere. The best practices for early alert outreach campaigns targeting specific student populations, how others are conducting outreach, the modality of outreach and the process itself, and what tips and tricks they have learned regarding early alert technology are some examples advisors would like to know. Academic advisors have dedicated conferences to share experiences, challenges, and successes within the advising profession, but these can be expensive to attend. However, the institution does not need to wait for these conferences to happen annually or be resigned to paying conference registration fees to facilitate this networking and learning opportunity.

Taking advantage of already existing meetings and organizations on campus can be an opportunity to share the unique outreach campaigns and best practices that have developed organically. Academic advisors may need to be made aware that their office or department has

the best approach, so the office responsible for the technology on campus should collaborate with the academic units to highlight and share the work the unit is already doing.

Academic advisors shared that most students who responded to their outreach attempts were appreciative or pleasantly surprised that someone from the institution cared enough about the instructor's feedback. However, most advisors shared that the overall response rate was 50% or below when conducting outreach via email. Advisors noted that outreach through text messaging was slightly more successful until students began recognizing the area code. Of particular note, however, one academic advisor shared that they routinely have a 70% to 90% response rate from their students. The advisor shared that when students know and can tell that their advisor genuinely cares about their wellbeing, they are much more likely to respond to the outreach. The institution and other researchers should follow up with this advisor to determine if a potential industry best practice is waiting to be understood and incorporated into the literature or if this is simply an anecdotal experience captured in this study.

Campus Adoption and Expectations

As previously stated, the University of Missouri has implemented all of the features of the academic early alert technology. In addition, the technology has been widely adopted across all undergraduate academic units and a significant number of student services and resources across the campus. Academic advisors have shared that having such a high adoption rate has made the academic early alert technology even more meaningful than if it was only the academic advising units utilizing the tool. This high institutional adoption rate has been an essential factor in allowing advisors to see their advisees more holistically rather than just seeing the flag or issue currently raised on the student.

A notable exception to this campus adoption is the perceived inconsistent adoption and usage of the academic early alert technology by the institution's faculty members from the viewpoint of academic advisors. Advisors shared the inconsistent usage in the overall number of faculty from one academic unit to another and how faculty members use the tool to notify students of the concerns from the instructor's perspective. Academic advisors shared the importance of increasing the consistency in which faculty incorporated early alert into their classroom as feedback and how faculty used the different tracking items. This consistent usage of the academic early alert technology would mean that raising an In Danger of Failing Flag, students and advisors knew it was a serious concern and not being utilized as a scare tactic to encourage better academic performance on the student's behalf.

Instructors greatly benefit from and take advantage of shared governance, the institution will need to work collaboratively to successfully achieve this goal of increased consistency among the faculty. The institution can begin with developing and hosting workshops on early alert best practices as part of their classroom management. Making participation in early alert a part of the mandatory HR duties for instructors would be valuable. In addition, they should highlight the various instructors that use the academic early alert technology successfully by spotlighting courses or sections that have seen improvements in the rates of Ds, Fs, and Withdraws (DFWs).

The institution should make public and regularly share the overall usage by staff members, i.e., advisors, instructors, staff members, and students, and the outcomes of the effort placed into the technology. In higher education, we generally stay away from forcing faculty members to do anything without their buy-in due to the shared governance mentioned above. To create the consistency that academic advisors have illustrated they need and desire, senior

leadership should take steps make faculty usage of early alert technology mandatory. This could be done by updating job expectations through human resources, various training opportunities, and revamping the faculty onboarding processes are a few ways to increase faculty usage and consistency.

Resource Allocation

Academic advisors shared that using an academic early alert technology allows them to see their advisees more holistically and helped students who otherwise would have fallen through the cracks, making them feel like they were better academic advisors. However, academic advisors were clear and explicit when forced to decide between performing core academic advising duties or conducting outreach and utilizing the academic early alert technology; advisors almost always stop participating in early alert efforts. Pausing their efforts with early alert was not something they enjoyed having to do. Academic advisors consistently shared how awful they felt knowing how critical outreach could be for some of their advisees but did not have time to conduct it.

The University of Missouri should hire dedicated student support coaches to assist with the early alert outreach to offset the increasing caseload of academic advisors. These coaches would be most helpful when academic advisors are preoccupied with other duties, such as enrolling students for the next semester or working with students on or attempting to get off probation. This recommendation does not argue where or how support coaches should be integrated but acknowledges that the institution is unlikely to increase the number of tracking items that can be followed up on or successfully incorporate additional strategic initiatives without sacrificing work on current initiatives.

Technology

Academic advisors clearly articulated several enhancements that they felt would improve the existing academic early alert technology. The advisors did note that the MU office in charge of maintaining the technology on campus did a good job developing workarounds and sharing concerns with the vendor. However, it would be more beneficial and effective if the vendor-hosted regular opportunities for academic advisors to participate in focus groups regarding current usage of the technology and desires for future enhancements. The vendor gathers feedback from functional and technical leads and other key stakeholders. However, receiving feedback directly from those who use the technology daily would provide critical insight from end-users that otherwise may not gather with the self-selection of partner institutions and stakeholders regarding feedback on their product.

One feature of early alert technology that academic advisors had difficulty utilizing was the reporting feature. Feedback from academic advisors was split essentially by if they had supervisory duties or not. Those advisors with supervisory responsibilities shared that the reporting feature could have been more intuitive. An ample reason for this complaint emanated from the reports containing so much raw data that significant time is needed to analyze and manipulate them to make any meaningful connections. A simple resolution for this complaint would be incorporating additional filters on the page where advisors generate the reports from the early alert platform.

The academic early alert technology was not clear when or if advisors should be conducting outreach to students themselves or if it was the responsibility of another individual or department. While this is likely a process issue and not necessarily a problem with the

technology itself, there are reasonable enhancements the vendor could implement to help facilitate a better understanding of who is responsible or currently working with a student on a particular tracking item. For example, two potential solutions could be allowing color-coding of tracking items to indicate what type of end-user is working with the student or if anyone was even currently doing any outreach. Another solution would be to add an area within the detail section of the tracking item that would allow advisors and other staff members to indicate who is conducting outreach.

Similar to the previous suggestion, academic advisors suggested that the academic early alert technology created confusion by allowing multiple pathways to potentially facilitate the outreach process and in addition to using different words for those processes. The vendor should conduct and implement regular quality-of-life reviews and updates. While the quality-of-life updates are not as flashy and impressive as launching new features, these updates are critical when ensuring that the end-user experience is as seamless and intuitive as possible.

Academic advisors are hopeful for the addition of automated or smart tracking items. Smart tracking items could be raised on a student within an early alert technology, similar to other existing tracking items, but raised automatically by the technology based on an action of the student or as the result of a communication from another integrated technology. Adding smart tracking items to the technology was suggested in several ways. Smart tracking items could be raised by another relevant tracking item (i.e., if an instructor raised a Low Exam Flag) and the technology should automatically raise a referral to the campus tutoring center. Another suggestion for automation was adding a timer to the communications that went to students. While advisors are currently limited on conducting early alert outreach based on process or time

available, having an additional communication sent to the student with information similar to what an advisor would share in the manual outreach process.

Conclusion

The academic advising perspective provides a unique and critical lens through which academic early alert technology can be and should be understood. Academic advisors were identified and enlisted to participate in and facilitate an institution's strategic initiatives for very logical reasons. Advisors already have critical interactions with their students on a semesterly basis and throughout a student's time at the institution. Asking advisors to add additional checkpoints or outreach to their students, with whom they likely already planned on being in communication, makes sense. However, because advisors lack shared governance like faculty members, institutions did not need to evaluate the likelihood of adopting early alert technology. Compounded by the fact that institutions have almost continuously seen a decrease in the funding they have received from their state governments, there also have not been assessments of the academic early alert technology that included the advisors' perspectives.

Throughout the interviews and focus groups, academic advisors were generally appreciative of having academic early alert technology as a tool for their job. Advisors typically perceive the tool as making them better at their job while at the same time being able to see their advisees more holistically. However, institutions should consider how much is being asked of the academic advisors on their campus and thoughtfully consider how best to support advisors regarding the early alert process.

Section Six Scholarly Practitioner Reflection

The last three years of coursework, comprehensive exams, and dissertation work have revealed a lot about myself and my leadership style. Entering the program, I assumed I knew what kind of leader I was and how I planned on being a leader in education. I built this assumption throughout my undergraduate and graduate experiences while taking on various leadership roles. This program challenged me to reflect on what kind of leader I thought I was versus who I am—understanding who and why I have a preferred leadership style was an enjoyable journey. Bolman and Deal (2017) illustrate the importance of remembering that leadership is more about a person's activity and not so much about their position or title. I am eager to be a leader in different capacities as I begin the next chapter of my career in education.

Leadership Theory

Bolman and Deal (2017) illustrate differences between a manager and a leader; leadership is contextual and situated between the leader and constituents whereas management needs individual process workflows for specific situations. The two leadership styles I connected with the most, situational leadership and authentic leadership, require that a leader understand the unique person they are working with and truly know themselves as a leader. Northouse (2019) describes the contextual and situational approach to leadership as Situational Leadership. As a leader, I do my best to recognize patterns while also paying attention to the unique individual I am working with and the specific issue they are dealing with. This flexibility allows me to understand the needs of those I am working with and adapt how I support them. One approach working in the past does not mean that the same approach is guaranteed to work in the future, as both the situation and the individual have changed between circumstances. Northouse (2019) illustrates that leaders in this context must be directive and supportive and match their

followers' competence and commitment. Directives inform others what needs to be done, how tasks should be done, set timelines, and how they will be evaluated. These directive behaviors help explain the bigger picture (Northouse, 2019). Supportive behaviors are two-way communication and help to build the relationship between leader and follower. These supporting behaviors are asking for input, problem-solving, praising, listening, and showing that the leader cares about the follower's social and emotional needs (Northouse, 2019). Each individual I interact with has a different level of directive and behavioral support depending on their unique skill levels and socio-emotional needs.

The second leadership style that has resonated with me is authentic leadership. This leadership style is less focused on prescribing how a leader should interact with others and focuses more on who or how an authentic leader interacts with others. Further, Authentic leadership is the intrapersonal perspective on the leader, their knowledge, and self-regulation and is influenced by their positive psychological capacities (Northouse, 2019). Knowing who I am and my strengths and weaknesses allow me to connect with and influence those I work with. Again, most leadership styles focus on the relationship or dynamic between leader and follower. However, authentic leaders have their leadership and sense of identity developed from critical life moments that influence their self-awareness, internalized moral perspective, balanced processing, and relational transparency (Northouse, 2019). By emphasizing these personal qualities and letting others know what I am passionate about or demonstrating through actions that I am trustworthy, I can develop positive relationships and foster a healthy environment for others to thrive. Some of the most impactful leaders I have been privileged to work with and for have shown me their authentic selves and encouraged me to be myself as well. Finally, authentic leadership illustrates that a person can continue to develop in this style as they experience life

and progress throughout their career. I aim to be as true to my authentic self as I can be so that others I work with feel valued enough to reciprocate and show their authentic self.

My Mental Model

I am naturally a learner. This program has amplified my desire to be a life-long learner. However, learning as an adult is different from learning as a child. Learning as an adult is reflective discourse (Mezirow, 2009). As a younger member of the cohort, I am still finding myself as a leader. Reflecting on past experiences, how I interact with colleagues, and those I have supervised, I continually understand myself more as time passes. I see myself being a combination of a situational and authentic leader. As I continue developing my leadership skills, I am becoming more aware of myself and my potential as a change agent. The EdD program provided numerous opportunities to reflect on who I am as a leader in education and as a change agent. A piece of wisdom from this program that I will keep with me as I continue to develop is the Ubuntu Philosophy that "a person is a person because of other people" (Senge et al., 1994). A leader cannot be a leader without followers; until we live in a perfect world, change and direction will always be needed.

Equitable Problem Solving and Decision Making

My experience with academic early alert technologies has made me highly aware of the potential for incorporating equitable problem-solving into decision-making at institutions and among the corporations that own the technology. However, this experience has also made me aware of the potential to misuse early alert technology and further the existing iniquities. As Uncle Ben from *Spider-Man* said, "with great power comes great responsibility" (Ziskin & Bryce, 2002). Institutions that implement academic early alert technologies and the corporations that own the proprietary platforms have not only an opportunity but a moral obligation to ensure

that these technologies are used so that, at the bare minimum, they help address the systemic issues marginalized students encounter while at their respective institution(s). Awareness of our unconscious bias(es) and keeping them checked can substantially prevent academic early alert technologies from unintentionally discriminating against these groups (Mertens, 2020).

I routinely push individuals and groups to think beyond making meaning of the data as a single unit. Instead, encouraging people to analyze the data; looking not just at the students with low GPAs or who have self-identified as not having a sense of belonging but also looking at the data from traditionally marginalized and underrepresented groups. Asking questions like "What do successful students look like?" "What resources do we already have?" or "What can we do to begin supporting these students in a meaningful way?". The greatest impact this program has given me is knowing and feeling empowered to critically reflect on decisions and options, incorporating data-driven decisions, and using my position and privileges as an advocate for those who do not have a seat at the collective table.

Educator as a Leader

One of the positive influences this dissertation has had on me is understanding the importance of not just being a leader and understanding my leadership style knowing what it takes to be an educational leader. This learning process was facilitated and optimized through repeated reflection in the learning process (Chen, 2014). In addition, learning occurs individually as new knowledge, skills, attitudes, and beliefs change their worldview (Gill, 2010; Merriam & Bierema, 2014). I have been able to help educate others through workshops and training. Adapting the time spent together based on the person's unique skill set and attitude allows me to make the workshop individualized so that their learning potential is maximized. The individualized workshop also helps to convey where that person's efforts fit into the broader

institutional mission (Merriam & Bierema, 2014). I also encourage colleagues to think critically by encouraging them to check assumptions. Merriam and Bierema (2014) illustrate that we can make better-informed decisions by checking assumptions rather than going with our anecdotal experiences. When we critically analyze data and make time for reflection, we ensure that equitable, data-driven decisions are made and that we provide ample opportunity for learning experiences to occur.

Leaders as a Change Agent

The EdD program has encouraged and made me more confident in acting as a change agent. Ettling (2012) illuminates that change comes through the humility of sharing stories, demanding change when we experience admiration or hostility. Living a privileged life made me feel like I did not necessarily have a voice or a place demanding change. The last few years have taught me that I need not be marginalized or oppressed to be a change agent. I can take the experiences of others I have met, read about, and empathized with to help enact change. I understand how I can use the platform our society has given me and intentionally give those who do not make sure their voice is heard. George et al. (2007) illustrate that successful organizations empower all. Formerly, I worked in a centralized department at a large four-year university; my decisions potentially affected tens of thousands of students. Now, I work for a major venture-owned corporation where decisions I am a part of or help in the decision-making process potentially affect millions of students. Having the right culture in an organization, large or small, has become even more apparent as a necessity to effectively influence policies and decisions (Bolman & Deal, 2017; Levi, 2017).

In addition to having the right culture to support organizational change, dialogue is also critical. Charan (2001) states, “dialogue is the basic unit of work in an organization… it is the

single most important factor underlying the productivity and growth of the knowledge worker" (pp. 58-59). Working in early alert and with academic early alert technologies forces individuals to code-switch between the vocabulary used by those at their respective institutions, the features or processes of different academic early alert technologies, and the vocabulary folks use in their everyday speech. Being able to communicate effectively and truly understand what the other person is conveying is immensely important. I have found that actively listening and employing appreciative inquiry assists me with understanding their needs, barriers, and limits when implementing and adopting early alert on campuses (Kotter, 2011). These techniques allow me to be a better leader while at the same time creating spaces and influencing organizations so that positive change can be made for all students that are impacted by academic early alert technologies. In addition, and notwithstanding the former, taking the time to consciously and critically analyze options will allow me to be a more successful change agent, ensuring that all are empowered.

Dissertation Influencing Scholarship

This dissertation process has been a roller coaster full of ups and downs. During the first summer of coursework in 2019, I was advised to "embrace the ambiguity" (D. Cormier, personal communication, July 1, 2019). Entering the EdD program, I knew I wanted to contribute to the literature surrounding early alert, but I ultimately had no idea what I wanted to research or where I should even begin. I was fortunate to have a supervisor, and now serving as a committee member, who forwarded the dissertation she wrote regarding early alert and another early alert dissertation that influenced hers. The other dissertation was Dr. Simon's seminal *A national study of student early alert models at four-year institutions of higher education*, and I instantly knew I wanted to work towards something that would fill a significant gap within the literature

and could potentially be helpful to others outside of the study but also in the early alert space. As I began reading additional articles and dissertations that others had already written, I slowly began to put together research questions and plans on how I would eventually complete my dissertation. Few, if any, of those original ideas and plans survived the iterative process that is peer and chair review.

That same review process encouraged me to network with other scholars in early alert. Articles were shared, and I had conversations regarding opinions about early alert and where the technology is going in the future. I encountered and thought about different research questions. I learned how to analyze data critically both from a quantitative and a qualitative lens. I also learned when and why it would make sense to conduct a study in a particular method or if both methods should be used together. However, throughout this process, I never wavered from the idea that regardless of what my dissertation ended up focusing on or how the issue would be studied, the findings would be applicable and be of use not only to those that were included but for a multitude of others that might decide to analyze the study for their self or situation sometime in the future.

As I reflect on the overall dissertation process, I am know this dissertation is not my final contribution to the early alert literature. I am excited to share this study's findings with others and begin to explore the other questions and research areas that I was unable to include in this dissertation.

Conclusion

This dissertation and the broader EdD program have helped me become a more decisive and well-rounded educational leader. I can confidently exercise various perspectives in leadership theory and practice, critically conduct organizational analysis, critique educational

policy, and identify problems of practice in a manner that involves data-driven decision-making with equitable outcomes in mind. I am most proud of becoming a scholar-practitioner, I incorporate theoretical best practices in and outside the classroom to holistically support student success. This program and dissertation have given me the tools and skillset to continue my development as a leader, scholar-practitioner, and change agent for the rest of my career.

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Appendices

Appendix A

Recruitment Email to Participate in Research Study

Subject: Invitation to Participate in ELPA Dissertation Research Study
Body:
Hello Advising Friends,
My name is Michael Williams, and I am a doctoral student at the University of Missouri in the College of Education and Human Development's Educational Leadership Policy and Analysis Education Doctorate program. I am kindly requesting your participation in a doctoral research study that I am conducting titled: Understanding the Unique Perspectives and Experiences of Academic Advisors who use an Academic Early Alert System. The purpose of this study is to evaluate the perceived usefulness of the early alert system by academic advisors. You are being asked to participate because you are above the age of 18 and are a professional academic advisor at the University of Missouri. This study will provide institutions and scholarly practitioners with a strategic understanding of how an early alert system can be helpful to academic advisors. Importantly, this study will contribute to the current gap within the early alert literature that neglects the academic advisor perspective. Participation is voluntary and you will not receive financial compensation. You do not have to be in this study if you do not want to be. If you do participate and later decide that you do not wish to continue to be in the study, you may stop at any time without penalty.
I am inviting you to participate in a focus group that is expected to last approximately 45-60 minutes from April 18 through April 29. These focus groups will be conducted via Zoom. Please indicate your interest through this doodle
link: https://doodle.com/meeting/participate/id/7axPvjEa by April 8 to confirm your interest in participating in the study. After your confirmation, I will send a Qualtrics link to collect anonymous demographic information. This survey should take less than 3 minutes to complete. Please get in touch with me at michaelwilliams@missouri.edu or 816-267-2481 with any questions.

Thank you for your time and consideration.

Sincerely,
Michael Williams
Principle Investigator
Doctoral Candidate, University of Missouri

Appendix B

Consent Form to Participate in a Research Study

Researcher's Name(s): Michael Williams

Project Number: # 2090066

Project Title: A Case Study Evaluating the Perceived Usefulness of an Academic Early Alert System from the Unique Perspective of Academic Advisors

You are invited to participate in a research study about the perceived usefulness of an early alert system based on the perspectives of academic advisors. The researcher invites academic advisors who are adults above the age of 18 from different academic units to be in the study. You may have gained access to this study through the advising listserv. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by Michael Williams, a doctoral candidate at the University of Missouri.

Background Information:

The purpose of this study is to evaluate the perceived usefulness of the early alert system by academic advisors. This study will provide institutions and scholarly practitioners with a strategic understanding of how an early alert system can be helpful to academic advisors. In addition, conducting this research will provide resources and implications to assist this institution and other institutions engaging in this work. Further, this study will contribute to the current gap within the early alert literature that lacks the academic advisor perspective.
Your participation is voluntary and will not receive financial compensation. You do not have to be in this study if you do not want to be. If you do participate and later decide that you do not wish to continue to be in the study, you may stop at any time without penalty.

Procedures:

If you agree to be in this study, you will be asked to:

- Complete a brief demographic questionnaire that includes five questions that will take approximately one minute to complete.
- Participate in a virtual focus group that will last 30-60 minutes.
- You will be asked to give your honest feedback as a staff member at the University of Missouri.

Voluntary Nature of the Study:

This study is entirely voluntary. Everyone will respect your decision whether or not you choose to be in the study. No one associated with this survey will treat you differently if you

decide not to be in the study. Additionally, this study is completely anonymous; no one will know if you did nor did not participate. If you decide to join the study now, you can change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study

Being in this study involves some risk of the minor discomforts that can be encountered in daily life, such as fatigue, stress, and concerns about relationships with your peers. Being in this study would not pose a risk to your safety or wellbeing. The benefits of the study include voicing your thoughts and concerns regarding the early alert system (MU Connect) that you are currently using.

Payment

This study is completely voluntary; there will be no reimbursement or payment for time.

Privacy

Any information you provide will be kept anonymous. The researcher will not use your personal data for any purposes outside of this research project. The researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by password protection and data encryption. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions

If you have questions now or at a later time, you may contact the researcher, Michael Williams, via email or phone. You can ask any questions you have before you begin the survey. Please print or save this consent form for your records. A copy of this Informed Consent form will be given to you before participating in the research. Additionally, you may contact Dr. Michael S. Williams at williamsmichae1@missouri.edu or 573-882-7625. If you have questions about this study, you can contact the University of Missouri researcher at 816-267-2481 or michaelwilliams@missouri.edu. If you have questions about your rights as a research participant, please contact the University of Missouri Institutional Review Board (IRB) at 573-882-3181 or muresearchirb@missouri.edu. The IRB is a group of people who review research studies to make sure the rights and welfare of participants are protected. If you want to talk privately about any concerns or issues related to your participation, you may contact the Research Participant Advocacy at 888-280-5002 (a free call) or email muresearchrpa@missouri.edu.

Sincerely,
Michael Williams
Principal Investigator
Doctoral Candidate, University of Missouri
(816) 267-2481
michaelwilliams@missouri.edu

Appendix C

Demographic Questions

1. First Name and Last Name:
    a. Text
2. What is your gender?
    a. Male
    b. Female
    c. Non-binary / third gender
    d. Prefer not to say
3. Which Academic Unit do advise for? Or work in?
    a. College of Agriculture, Food, & Natural Resources (CAFNR)
    b. College of Arts and Science (A&S)
    c. Trulaske College of Business
    d. College of Education and Human Development
    e. College of Engineering
    f. School of Health Professions
    g. Honors College
    h. Missouri School of Journalism
    i. Sinclair School of Nursing
    j. Other
4. What is your race?
    a. White
    b. Black or African American
    c. American Indian or Alaska Native
    d. Asian
    e. Native Hawaiian or Pacific Islander
    f. Other
5. What is your current HR Title?
    a. Text
6. Describe your core job role.
    a. Text
7. What is the size of your advising case load?
    a. Less than 100 students
    b. 100-200
    c. 201-300
    d. 301-400
    e. 401-500
    f. 501-600
    g. 601 or more
8. How long have you been an academic advisor at MU?
    a. Less than 6 months
    b. 6 months to 1 year

   c. 1 to 2 years
   d. 3 to 4 years
   e. 5 to 7 years
   f. 7 to 9 years
   g. 10+ years
9. How frequently do you use the institution's early alert system, MU Connect?
   a. Daily
   b. Weekly
   c. Monthly
   d. Only during certain times of the semester
   e. Never

Appendix D

Interview and Focus Group Questions

1. In your own words, what is early alert technology?
2. Describe your primary role using early alert technology
3. Tell me about your experiences using early alert.
4. How has your understanding of Early Alert evolved??
5. How has your identity as an Academic Advisor changed using early alert technology?
6. How does the early alert impact your work performance?
    a. Productivity?
    b. Effectiveness?
7. Is the technology easy to use or is it challenging?
8. Is the technology useful for your job duties?
9. Is your role with the technology clear and understandable?
10. Does your interaction with the technology require a lot of mental effort?
11. Does the technology do what you need it to do??
12. Describe the quality of output from early alert?
13. How would you share/describe with someone who is unfamiliar with early alert what the technology does?
14. Do you share your results of using early alert with others?
15. Are the results of early alert apparent?
16. If there were no restrictions, what would you change about early alert technology?
17. What additional comments would you like to share?

Appendix E

TAM2 Measurement Scales?

1. Assuming I have access to the system, I intend to use it
2. Given that I have access to the system, I predict that I would use it
3. Using the system improves my performance in my job
4. Using the system in my increases my productivity
5. Using the system enhances my effectiveness in my job
6. I find the system to be useful in my job
7. My interaction with the system is clear and understandable
8. Interacting with the system does not require a lot of mental effort
9. I find the system to be easy to use
10. I find it easy to get the system to do what I want it to do
11. People who influence my behavior think that I should use the system
12. People who are important to me think that I should use the system
13. My use of the system is voluntary
14. My supervisor does not require me to use the system
15. Although it might be helpful, using the system is certainly not compulsory in my job
16. People in my organization who use the system have more prestige than those who do not
17. People in my organization who use the system have a high profile
18. Having the system is a status symbol in my organization
19. In my job usage of the system is important
20. In my job usage of the system is relevant
21. The quality of the output I get from the system is high
22. I have no problem with the quality of the system's output
23. I have no difficulty telling others about the results of using the system
24. I believe I could communicate to others the consequences of using the system
25. The results of using the system are apparent to me
26. I would have difficulty explaining why using the system may or may not be beneficial

Vita

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