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Higher Education Executives and Data-Driven Decision Making: A Phenomenological Study

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Concordia University–Portland
College of Education
Doctorate of Education Program

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Higher Education Executives and Data-Driven Decision Making: A Phenomenological Study

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Concordia University–Portland

College of Education

Dissertation submitted to the Faculty of the College of Education

in partial fulfillment of the requirements for the degree of

Doctor of Education in

Higher Education

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Concordia University–Portland

2019

Abstract

Higher education organizations gather significant data from their constituents throughout student enrollment to graduation and beyond. This qualitative phenomenological study explored how college executives make decisions for their organizations. The Competing Values Framework (CVF) provided the conceptual framework for this study which focuses on how an organization relates to its environment. Eight executives consisting of five vice presidents, one enrollment executive, one dean, and one director, at higher education institutions accredited by the Southern Association of Colleges and Schools Commission on Colleges participated in this research study. Semistructured interviews, an open-ended questionnaire, and a review of participant college website data were the methods used to collect and analyze data for this study. Executives interviewed for this study revealed three primary areas within colleges for which they make decisions; these categories were the operational, functional and human element. Four prevalent themes aiding in the decisions these executives make emerged: collaboration, cooperation, communication, and data sharing. Results of the interviews, responses to questionnaires, and review of participant documents led to the conclusion that these executives make methodical decisions when having time to consult the data gathered by their departments. When making snap decisions that may not necessarily require extensive data they rely on their “gut” and personal experiences. Future studies might examine the analytical process executives may take when making decisions on behalf of their organizations.

Keywords: data-driven decision making, data-informed decision making, data-based decision making, evidence-based decision making, assessment, research, accountability

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Chapter 1: Introduction

Introduction to the Problem

Effective decisions by community college executives, more specifically Vice Presidents of Student Affairs (VPSA), require they make choices which may include a process of gathering information and assessing alternative resolutions. Deliberate and thoughtful decisions are often made by using a step-by-step process which aids in organizing relevant information, delineating alternatives, increasing the likelihood of making the best choice (umassd.edu, 2018). Analytics is not a new concept but refers to the science of logical analysis (Dziuban et al., 2012). The use of analytics in the higher education environment appears to have been increasing over the past decade. It is also important to point out that having data is only half of the equation with analyzing that data as the other.

Successful use of analytics can be attributed to three factors: effective institutional training, staff skilled in understanding and applying analytics, and leaders committed to evidence-based decision-making (Dziuban et al., 2012). The purpose of this qualitative phenomenological study was to explore the experiences of college executives in daily decision-making at the executive level of a higher education institution. This study was designed to understand the experiences of college executives in using data for decision-making and will identify: data collection methods, purposes for collecting data, and the use of data points in daily decision-making.

Background, Context, History, and Conceptual Framework for the Problem

Background. Educational institutions have become data-rich environments; however, if decision-makers do not understand the benefits and limitations of data, the types of data relevant for the decisions they are confronted with, and how data can be appropriately used for decision

making, the data has limited usefulness at best (Gill et al., 2014). Executives at community colleges may be presented with various types of data from various sources. These administrators need to determine which data are most relevant to aid in decision making when confronted with situations. It was helpful to understand what types of data different executives at colleges utilize to make decisions daily and how they go about doing this. College executives' duties vary depending upon their specific role within the college, for example, the Vice President of Instruction may concentrate on issues that affect academic programs offered at the institution. A VPSA might focus on student housing, financial aid, Greek life, and other nonacademic issues that occur on college campuses.

Context. Data is one method, and possibly a primary method, used by college leaders to provide a roadmap to reform and potentially the impetus for educational improvement (Mandinach, 2012). From the data gathered and analyzed, administrators may assess where they were, where they are, and can also be used to direct where an institution might be heading. The direction an institution takes may also be determined by external stakeholders such as accreditation agencies, as well as state, national, and local business interests. It would be incumbent upon educators to find ways to incorporate data results effectively to inform their practice (Mandinach, 2012).

The literature examined evidence-based methods, such as the Knowledge Management Systems (KMS), which is a blend of technical and social mechanisms used to identify an institution's effectiveness (Swan, 2009). Due to the continuing emphasis on institutional accountability data warehousing systems have become more of a necessity rather than a phenomenon. Data warehousing systems consist of tools designed to collect, manage and interpret large amounts of data in a centralized system (Swan, 2009).

Local, state, and national job markets guide which program of study students may pursue, based on the student's desired career choice and whether that career is available in a location preferred by the student. Administrators at colleges use local workforce board employment data as well as national, state, and local industry requirements to determine the programs they offer to attract the most students possible. This study examined the experiences higher education executives had with data-driven decision-making (DDDM) focusing on vice presidents or other administrators in the student affairs practice.

History. Higher education faculty and staff gather assessment data, midway through and at the culmination of a course. Faculty use, or at least should use, this data to make changes to their instruction. The student affairs profession uses the term “assessment” ambiguously maintaining the focus of the results of service assessment on continuous improvement (Ryder & Kimball, 2015). College personnel gather much data concerning every aspect of institutional operations and program offerings. Dziuban, Moscal, Cavanaugh, and Watts, (2012) posit that college administrators analyze the needs of local, state, and national industry and how the college can contribute to these stakeholders by providing graduates with skills to meet industry needs. Full-time directors of student affairs assessment oversee what seems to be an endless cycle of local data collection and assessment to provide administration and interpretation of evidence to improve student learning and program effectiveness (Ryder & Kimball, 2015). Administrators also gather internal data to assess their programmatic offerings, financial status, retention, and support services, among others. During this study, I sought to understand the experiences of higher education executives using data in their day-to-day decision making.

Conceptual framework for the problem. Educators may have a hard time perceiving that organizations can be simultaneously centralized and decentralized, that managerial leaders

can focus on the needs of their employees and students and the day-to-day functioning of their organizations as well as the organization's external environment, and that organizational members can keep in mind the long-term goals of an organization when there are more pressing short-term needs (Ryder & Kimball, 2015). Various criteria used to study organizational effectiveness are embedded in a set of competing organizational values (Arsenault & Faerman, 2014). Educators have been basing decisions about curriculum using data, such as test scores, in their schools and classrooms and adjusting what is taught and how teaching is conducted based on this data for quite some time now.

The student affairs profession oversees and provides services whose assessment is more emotional in their measurement. One of the challenges to the student affairs practice appears to be the application of theory to practice (Ryder & Kimball, 2017). Further, the need for naturally occurring reflection within the student affairs practice allows one to make mid-course corrections to a plan of action (Ryder & Kimball, 2017). The Competing Values Framework (CVF; see Figure 1 page 15) focuses on how an organization relates to its environment. The flexibility of the framework allows administrators to keep in mind long-term goals when dealing with short-term needs. This framework brings to fore whether an organization, such as a college, shares the same values and consequently the same data to meet student needs.

Statement of the Problem

Higher education administrators make decisions every day that impact their constituents. Data is collected through different departments to determine student demographics, behavior trends, or to determine student success factors. However, are administrators using this data when making decisions concerning how to best serve students and support their success? This study focused on how community college executives, primarily VPSA or others performing similar

duties, use data in their decision-making process. In this study, the terms executive and administrator are used interchangeably when referring to individuals holding positions such as a president, vice president, dean or director at a college or higher education institution. The integration of assessment data into institutional strategic decision making is marginal, even though administrators support the use of assessment data in their decision making. A review of the literature revealed the student affairs profession uses the term “assessment” ambiguously while maintaining its focus on continuous improvement (Ryder & Kimball, 2015). Student affairs professionals gather data about the services being provided and making improvements or upgrades to those services when necessary.

Purpose of the Study

Vice Presidents of Student Affairs and related executives oversee recruitment and retention at many colleges and universities as part of their daily duties. College and university responses to increased pressure to improve retention rates may be designed to cover expenses involved with administration and analysis of assessments focusing on student experiences and outcomes (Cox et al., 2017). The purpose of assessment is improvement leading to changes in attitudes, values and psychosocial development that may occur across students’ college experiences leading to improved student support (Cox et al., 2017; Ryder & Kimball, 2015). Many administrators have implemented initiatives that have still not improved national retention rates. These initiatives have resulted in educational policymakers and administrators experiencing growing pressure to address this critical issue (Cox et al., 2017).

Results of previous studies indicate administrators should focus on using evidence, or data, to inform decisions about such topics as resource allocation, teacher hiring, and firing, as well as curriculum and instruction (Hora, Bouwma-Gearhart, & Park, 2014). Such decision-

making appears to be a defining characteristic of current U.S. educational policy. Administrators gather data concerning every aspect of the institution's operation, academic, and other program offerings by determining what data determines or influences, whether internal or external, an institution's program and service offerings. From the data gathered and analyzed, administrators may assess where they were, where they are, and can also be used to direct where an institution might be heading.

The direction an institution takes may also be determined by external stakeholders such as accreditation agencies, as well as state, national, and local business interests. It would be incumbent upon educators to find ways to incorporate data results effectively to inform their practice (Mandinach, 2012). The purpose of this study was to examine the experiences of higher education executives in student affairs or similar departments, in using the data being gathered to make effective decisions.

Research Question

This study sought to understand the experiences of community college executives in using data to inform their decision making. Departmental personnel gathers much data concerning every aspect of institutional operations and program offerings. This study focused on the experiences of community college executives in their uses of data in the performance of their day-to-day duties by answering the following question:

- What are the experiences of community college vice presidents in using data for decision-making purposes?

Rationale, Relevance, and Significance of the Study

Rationale. I examined data collection methods that focused on answering the main question, how executives at community or 2-year colleges use data in their daily decision

making. I also examined the processes participant executives within the student affairs profession employed at their colleges when making decisions using data presented to them to aid in making effective choices for their students and institutions. DDDM has been an area of interest in K–12 education for over a decade, in large part due to the requirements of the No Child Left Behind (NCLB) Act which mandated the use of data to document student outcomes (Kerrigan, 2010). Revised accreditation standards are driving higher education administrators to work within a continuous improvement model, and hence their need to analyze assessment data to drive decision-making (Campbell, 2014). This data provides college administrators with the needed evidence they can show their stakeholders and accreditors.

Significance of the study. The results of the study can help community college leaders: understand the importance of facilitating data sharing. Data shared among departments can improve the overall effectiveness of the organization (Arsenault & Faerman, 2014). Results may also provide student affairs professionals guidance in understanding how to improve data sharing at the local level as well as beyond that, for example at the state and national level. Incorporating a methodological model of decision-making with evidence of past performance can lead to an enhanced student affairs practice. Results may also lead professionals to understand how data can improve informed decision-making.

Approximately one in four college or university students may not return to college after the first year (ACT, Inc., 2016; Cox et al., 2017). This statistic has not altered significantly in the past 30 years. As a response to this startling statistic, administrators attempt to respond by offering various programs geared toward student engagement to improve experiences and outcomes by shifting their spending onto assessments. These assessments may lead to

improvements in programs and services being provided by student affairs professionals. Results may be used by colleges with similar student populations, environments, and goals.

Definition of Terms

Assessment. The action or an instance of making a judgment about something: the act of assessing something (Merriam-Webster, 2020). It is used to improve services provided by departments, also occasionally used interchangeably with data-driven decision-making (Ryder & Kimball, 2017).

Data analytics. The process of analyzing raw data to find trends and answer questions (Master's In Data Science, 2020). Guides the decision-making process in five distinctive steps: capture (data), report (trends), predict (with a model), act (intervene), and refine (the model and process) (Dziuban et al., 2012).

Data-driven decision-making (DDDM). It is not a single activity, but “can best be described as the use of systemically and systematically collected data to guide a range of decisions” (Callery, 2012, p. 7).

Social capital. The networks of relationships among people who live and work in a society, enabling that society to function effectively (Lexico, 2020). It is developed through the interactions among college faculty and administrators and the social structures that frame them (Kerrigan, 2014).

Student affairs. Has evolved over the years, to support the diversity of the institutional and academic missions of the college through the consistent and persistent emphasis on and the commitment to the development of the whole person (Shuh et al., 2016). Encompasses departments such as residence life, Greek life, retention, recruiting, tutoring, including extracurricular activities and other nonacademic activities involving college students.

Assumptions, Delimitations, and Limitations

Assumptions. The following assumptions underlined the purpose of this study. It was assumed that the participants, being student affairs professionals, provided me with relevant and valid information. It was assumed that some administrators while gathering data concerning student interests may not be using this data when making decisions concerning what programs they should be offering. I assumed that discovering gaps in how or even whether data was being gathered and analyzed would lead to improved use of data in an institution's decision-making process.

Delimitations. Since these administrators are concerned with students during their time out of the classroom, which in many instances is greater than the time in the classroom, their time is mainly occupied with the wellness of the students. These vice presidents and executives are concerned with ensuring students are prepared for class by making sure students have housing, meals and are also concerned with the overall safety and well-being, that is, if they are taking care of themselves by eating properly or at least daily. This study was limited to VPSA and other executives in similar positions at community colleges within the Commission on Colleges of the Southern Association of Colleges and Schools (SACSCOC) accrediting agency area of responsibility which includes the following areas: Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia, and Latin America.

Limitations. Vice presidents of student affairs are primarily concerned with activities directly dealing with student life outside of the classroom which proved to be another limiting aspect when dealing with their availability. For example, these administrators deal with: residence life and housing, counseling services, career services, campus recreation, the planning

and direction of all programs dealing with student leadership and engagement, and in some cases recruitment and retention (<http://www.wesleyan.edu/>, 2018). One of the most significant limitations of studying these college administrators was their time and availability to participate in the study. These administrators deal with student issues even when in between semesters because they are making preparations for the upcoming year by reviewing and analyzing data from previous semesters which limited their availability to participate in this study. A purposeful sampling of participants was used to select the participants that were more likely to respond to questionnaires or participate in interviews. Limiting participants to those colleges falling under the purview of the SACSCOC accreditation agency may have contributed to the inability to recruit a larger sample size.

Summary

This study was designed to understand the lived experiences of community college vice presidents in using data to inform their decision making. Departmental personnel gather great amounts of data concerning every aspect of institutional operations and program offerings. College administrators analyze the needs of local, state, and national industry and how the college can contribute to these stakeholders by providing graduates with skills to meet industry needs. Institutions also gather internal data to assess the effectiveness of program offerings, financial status, retention, and support services, among others (Dziuban et al., 2012).

Seeking to understand how VPSAs, and other executives performing similar duties, use data to drive their decision-making was selected because of the scant current research on this topic. Arne Duncan, Secretary of Education in 2009, stated he was a believer in the power of data to drive decisions and that data gives us the roadmap to reform (Mandinach, 2014). The rationale for using a phenomenological study design was based on the commonality of the lived

experiences of these higher education executives, how they go about making decisions and what part data plays in this process.

Chapter 2: Literature Review

Introduction to the Literature Review

Data are everywhere, about everything we do, and are captured by different sources for different purposes. In higher education, the same data are often used by diverse departments for disparate reasons. College administrators are faced with numerous challenges from the institution's national, state, and local stakeholders, including accreditation agencies, as they attempt to meet a stated mission and goal (Campbell 2014; Dougherty, et al., 2013; Mandinach, 2012; Picciano, 2012). Administrators are also expected to use data to make decisions that determine the direction of their institution, including admission guidelines, retention, funding, default rates, programming, and so on. The literature reviewed for this study focused on how higher education administrators use available data if at all, to make relevant programmatic, as well as overall institutional decisions.

This study examined how Vice Presidents of Student Affairs at 2-year colleges use data in the execution of their daily duties. Data-driven decision-making has been an area of interest in K-12 education for over a decade, in large part due to the requirements of the No Child Left Behind (NCLB) Act which mandated the use of data to document student outcomes (Kerrigan, 2010). The integration of assessment data into institutional strategic decision making is marginal even though administrators support the use of assessment data in their decision-making (Campbell 2014). Further, revised accreditation standards are driving higher education institutions to work within a continuous improvement model, and hence their need to analyze assessment data (Campbell, 2014).

This study employed a qualitative research methodology to determine how college vice presidents use data in their daily decision-making. Of interest was how vice presidents and other

executives with appropriate authority determine the direction of program and service offerings at their respective colleges. The literature examined for this study indicates how higher education administrators appear to sustain organizational effectiveness through analytic decision-making, and how they apply their analyses to make decisions and achieve results. Decision making is a process that takes us from identifying a decision to be made, gathering information, assessing alternatives, and leads one to make a well thought out decision (UMass, 2018). Gathering data contributes to making informed decisions by providing substantial evidence based on the alternatives available to the decision-maker. This study focused on 2-year and community colleges to gain a better understanding of the lived experiences of vice presidents and other executives responsible for data-driven decision-making in their day-to-day activities. For this study, the following research question was used to explore the stated problem:

- What are the experiences of community college vice presidents in using data for decision-making purposes?

The review of literature first presents sources of strategic decision-making beginning with the current versus the projected state of decision-making. Second, the study examined some of the reasons why student affairs professionals and other executives need to base their decisions on pertinent data, rather than merely on the wants or influence of community stakeholders. This was followed by an examination of how collaboration among departments within institutions drives decisions and the role that social capital theory plays concerning such collaboration (Cohen & Fields, 1998; Kerrigan, 2014). Finally, this review examined methods that institutional administrators currently use to translate their raw data into useable information and actionable knowledge (Hong & Lawrence, 2011; Swan, 2009).

Leadership is an important influence of data use and attainment of technical skills is also necessary to ensure proper assessment of data for effective decision-making (Kerrigan, 2015). The literature examined provided a review of the significance staff training played to properly analyze and incorporate this data into their everyday practices. Educators must acquire skills and knowledge in data literacy to more effectively use data (Mandinach, 2012). The data itself is of no use to educators without the proper training in capturing as well as how to incorporate what the data is telling them into their institution's practices. Some of the literature examined highlighted not only the training educators experienced within their institutions but also the need for continued training for administrators, faculty, and staff (Arsenault & Faerman, 2014; Kallison & Cohen, 2009).

Finally, the literature review concludes with an analysis of how college executives, at community and 2-year colleges, use data in their daily decision making. Assessments may be used by Chief Administrative Officers (CAO) in their strategic planning, resource allocation as well as policy decision making (Campbell, 2014). The literature guides readers through the tools necessary for not only capturing data to make informed decisions but also through the analysis and application of that data in the operation of a student affairs division (Swan, 2009). Educational Data Mining (EDM) continues to be, an emerging interdisciplinary research area that deals with the development of methods to explore data originating in an educational context (Romero & Ventura, 2010). Using computational approaches in the analysis of educational data to answer educational questions through data mining techniques EDM is examined to provide further background to the DDDM research topic (Romero & Ventura, 2010).

Conceptual Framework

Educators have been basing decisions about curriculum using data, such as test scores, in their schools and classrooms and adjusting what is taught and how teaching is conducted based on this data for quite some time now. The student affairs profession oversees and provides services whose assessment is more emotional in their measurement. One of the challenges to the student affairs practice appears to be the application of theory to practice (Ryder & Kimball, 2017). Further, the need for naturally occurring reflection within the student affairs practice allows one to make mid-course corrections to a plan of action (Ryder & Kimball, 2017). Various criteria used to study organizational effectiveness are embedded in a set of competing organizational values (Arsenault & Faerman, 2014). The Competing Values Framework (CVF, see Figure 1) focuses on how the organization relates to its environment. The flexibility of the framework allows administrators to keep in mind long-term goals when dealing with short-term needs.

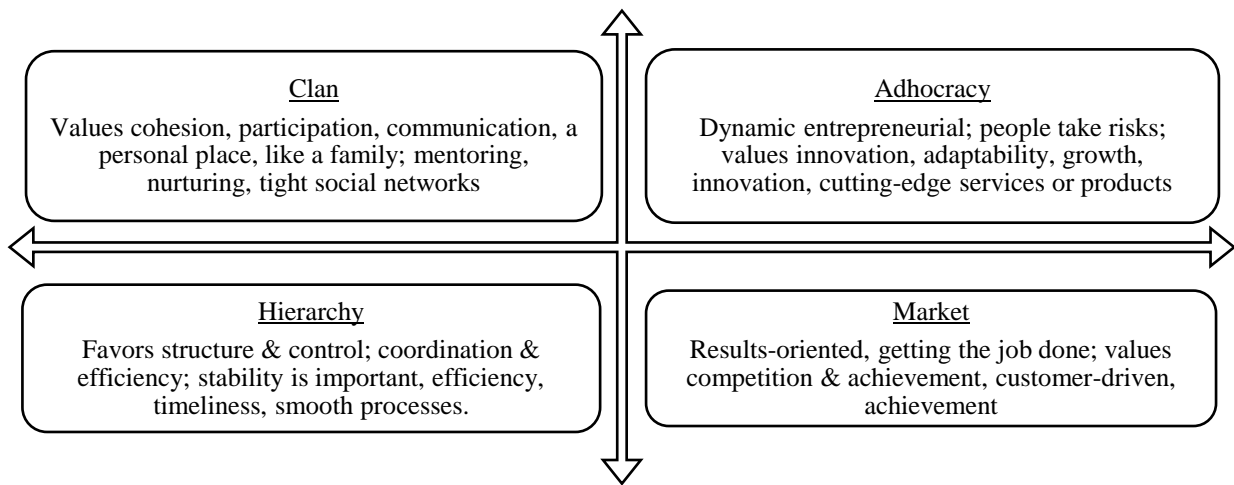


Figure 1. Competing values framework (Trupath, 2018).

CVF is useful in unearthing implicit perspectives, values, and assumptions so that areas of conflict, competition, and compatibility can be seen (Leimer, 2011; Thompson et al., 1981).

This framework brings to fore whether an organization shares the same values and whether sharing data amongst departments may lead to sharing the same or similar organizational values. In the classroom, teachers may adjust their teaching methods based on individual student scores to ensure that student's success. In the student affairs profession adjustments to services being provided require reflection, thoughtfulness, and intentionality based on values, beliefs, and assumptions of the practice (Ryder & Kimball, 2017). Managers make choices, Arsenault & Faerman (2014) posit that these choices are oftentimes made unconsciously. Further,

note that these choices reflect personal or organizational values regarding what is appropriate and good, but that individuals who are not explicitly thinking in terms of “competing values” are not necessarily aware of trade-offs that are being made, that is, what value is being avoided when its conceptual opposite is chosen. (Arsenault & Faerman, 2014, p. 149)

To determine if there are any gaps in existing research findings, I began by conducting searches in the Concordia library resources: Eric (ProQuest), the Taylor & Francis Online database, the Wiley Online Library as well as using Google Scholar database. I used the search terms: *data-driven decision making*, *data-informed decision making*, *data-based decision making*, *evidence-based decision making*, *assessment*, *research*, and *accountability*. This led me to several research articles that guided my study by gaining some background information about how administrators make programmatic decisions based on the data before them. Hong and Lawrence (2011) postulate, a comprehensive evaluation of teaching and learning can include a close look at teacher quality by analyzing teachers' examination of their practices and reflections about how their decision-making impacts student outcomes. Classroom performance—that is,

one data point followed by internal and external stakeholders—is only one aspect of not only student success, but overall institutional effectiveness as well.

The research led me to investigate how external influences guide programs participant institutions offer, as well as how these program offerings were funded. Also, I examined whether funding was provided through sponsorships, tuition, state or federal funding based on the data being gathered and analyzed by administrators at participant institutions. State performance funding was one method of financing public education institutions which is based on outcomes such as retention, course and degree completion, and job placement, not on inputs such as enrollments (Dougherty et al., 2013). Another aspect examined was assessment data, specifically, how this data is analyzed and used to drive decisions within the student affairs practice. Full-time directors of student affairs assessment oversee a seemingly endless cycle of local data collection as well as nationally normed survey administration, and interpretation of available evidence (Ryder & Kimball, 2015).

How administrators use assessment data, as well as what they do with the assessment data and with whom they share the results may be an important contributing factor to an institution's effectiveness. A theme that was prevalent in the literature affecting the student affairs practice is the CVF which laid out how various criteria used to study organizational effectiveness were “embedded in a set of competing organizational values” (Arsenault & Faerman, 2014, p. 148). It appears stakeholders continue to demand accountability of a higher education institution's ongoing success. Institutional success may be measured by the number of enrollments, and subsequently graduates and placements, these metrics and goals may be dependent on an institution's state requirements (THECB, 2018). Results of previous studies indicate administrators should focus on using evidence, or data, to inform decisions about

resource allocation, teacher hiring, and firing, as well as curriculum and instruction (Hora et al., 2014). Such decision-making appears to be a defining characteristic of current U.S. educational policy.

Administrators have been gathering data concerning every aspect of the institution's operation, academic and program offerings for many years, however, the process of using data has not been systematized nor automated until recently (Mandinach, 2017). Results of the analysis of data may determine or influence an institution's program and service offerings. An organization's effectiveness is impacted by the competing values within its operation, in that data analysis by administrators appears to directly influence the success of the institution (Arsenault & Faerman, 2014; Hora et al., 2014; Leimer, 2011; Quinn & Rohrbaugh, 1981, 1983). The CVF, as presented by Arsenault and Faerman (2014), discusses the concept that organizations should not solely focus on standardized processes and procedures as they may miss opportunities based on identified trends in their environment because they've "always done it that way." Organizations, particularly managers, should be open to new ideas, listen to their constituents, that is, students, so they may identify emerging trends in their environment (Arsenault & Faerman, 2014).

The study's context recounts the circumstances that encompass and perhaps may have created, the research problem, such as academic debates or concerns (Machi & McEvoy, 2015). The circumstances are also practical issues encountered by those being studied or difficulties that have led to studying the problem. Data is one method and possibly a primary method used by administrators which may provide a roadmap to reform and potentially the impetus for educational improvement (Mandinach, 2012). From the data gathered and analyzed administrators may assess where they were, where they are, and can also be used to direct where

an institution might be going. The direction an institution takes may also be determined by external stakeholders such as accreditation agencies, as well as state, national, and local business interests. It would be incumbent upon educators to find ways to incorporate data results effectively to inform their practice (Mandinach, 2012). Local, state, and national job markets guide which program of study students may pursue, based on the student's desired career choice and whether that career is available in a location preferred by the student.

Administrators use local workforce board employment data as well as national, state and local industry requirements to determine the programs they offer to attract the most students possible. Higher education administrators gather assessment data midway through and at the culmination of a course; faculty use, or at least should use this data to make changes to their instruction. The student affairs profession uses the term "assessment" ambiguously maintaining the focus of the results of service assessment on continuous improvement (Ryder & Kimball, 2015). In this technological age we gather data about everything, however, are we using the data to make decisions the data are designed to help us make? For example, are we using the data about how many steps we are taking daily, which is being tracked on our phones or whatever other activity tracking device we may use, to alter our behavior?

Locke (2009) posited that higher education practitioners tend to shy away from educational research available to them, rather they rely on personal experience when it comes to decision making (as cited in Price & Kirkwood, 2014). Further, with the use of technology being so widespread its educational effectiveness is still in question (Price & Kirkwood, 2014). This study examines the effect of decision making when data, gathered using the technology available to organizations, is used to aid administrators in making effective decisions. This research study also examined evidence-based methods to identify an institution's effectiveness. For example, by

designing and aligning metrics with state and institutional goals and not just on accountability culture of evidence is created to document outcomes that can impact policymakers' decision-making if administrators form strong political partnerships with those policymakers (James, 2015).

Review of Research Literature and Methodological Literature

Research literature. Data-driven decision-making is not new, particularly when holding schools accountable for student success as well as for funding purposes (Mandinach, 2012). A review of prior research in the area of DDDM was conducted for this study and laid out here. The literature reviewed encompassed evidence-based methods, such as Knowledge Management Systems (KMS), which are a blend of technical and social mechanisms used to identify an institution's effectiveness (Swan, 2009). The technical component consisting of databases is used to "capture, package and distribute tangible documented products" as described by Marhsall and Rossett, 2000 (as cited in Swan, 2009). They further describe the social side as enabling collaboration, connection, and reflection amongst those using the system and if not used in this way an organization may not benefit from improved performance (Swan, 2009). This study examines how participants use data in their daily interactions at their institutions, the technical as well as social systems that exist at participant colleges.

Research articles and dissertations first guided this study toward gaining some background information on how administrators use data to make programmatic decisions based on several factors such as state and local industry needs to be combined with student data, as well as an institution's historical data. Classroom performance is only one aspect of not only student success, but overall institutional effectiveness as well as whether students are, or are not achieving passing grades in the classroom which may be an indicator of their inability to be

successful in their careers. This study primarily focused on 2-year and community colleges, to examine how these administrators utilize course assessment data cross-referenced with employment or industry needs data, to update or make changes, if required, to curriculum and subsequently, program offerings to support student success out of the classroom. James (2015) found that community college leaders could impact policymakers' decision-making by forming strong political partnerships with policymakers. Further, James (2015) asserts that by designing and aligning metrics with state and institutional goals, not just on accountability, a culture of evidence may be created.

The use of technology in teaching, learning, and administration is becoming "old hat" requiring educators to be adept at its use in measuring performance and incorporation into everyday practice to be successful. Community colleges continue to shift from an enrollment-based funding model to a performance-based model to mollify state lawmakers and other stakeholders. James (2015) further explains that although most 4-year administrators have been required to comply with performance-based funding, legislators and community college leaders have only recently been collaborating on performance-based funding efforts. James (2015) defines performance-based funding (PBF) as, an allocation system based on student outcomes to determine how public funds should be appropriated to public institutions.

Initially, this funding model, as James (2015) further explained, consisted of three performance structures: performance reporting, performance budgeting, and performance funding; which until recently the most common structure in use was performance reporting. Performance reporting, as described by James (2015) was based on anecdotal successes and relayed to stakeholders by word of mouth. Performance budgeting was not only driven by the amount of money an institution spent but by results and accountability and is politically driven

(James, 2015). States find performance-based funding more feasible because they can gather data on institutional performance and tie funding to the results (Dougherty et al.,2011).

Institutions require funding to help provide students programs and services to become successful in meeting their higher education goals. Many higher education institutions rely on performance-based funding to enable them to continue to provide quality programs both in and out of the classroom for students. Several initiatives indicate a direct link from performance in higher education to funding at the state and federal levels (Rabovsky, 2012). Even though performance funding has been used by states for over 30 years, only half of all states participate in these efforts (Dougherty et al., 2013). Further, performance funding is a method of financing public institutions based on retention and degree completion, as well as job placements, rather than solely on enrollments, the norm in years past (Dougherty et al., 2013). This funding also aids institutions in subsidizing programs provided by the Student Affairs department such as housing, scholarships, grants and other programs needed to support students during their nonacademic time on campus.

Proponents of performance-based funding argue that public administrators may adopt management strategies that increase efficiency and improve performance as their reaction to performance-based incentives (Rabovsky, 2012). However, with organizational transparency and the ability for the public to evaluate an institution's success, some also argue it would be easier to impose sanctions on organizations that are not meeting stated goals (Rabovsky, 2012). This study examines participant college's publicly available data to examine documents available to administrators who are making decisions about program offerings and stakeholders who are making decisions concerning program funding. These documents are also available to potential students and parents who are making decisions about attendance.

The use of data analytics and data-driven decision-making in higher education is still considered to be in its infancy, although the adoption of data use in decision-making may be further along. Even today many institutions are still using antiquated systems if any at all (Dziuban et al., 2012). The integration of assessment data into institutional strategic decision making is marginal, even though administrators support the use of assessment data in their decision making. A review of the literature revealed how the student affairs profession uses the term “assessment” ambiguously while maintaining its focus on continuous improvement. Student affairs professionals gather data about the services being provided and make improvements or upgrades to those services when necessary.

State and local job markets drive most of the programs offered by colleges. These job markets also contribute to designing programs of study that students may wish to pursue. Colleges use local workforce employment data, as well as national, state and local industry requirements to determine what programs to offer. In a letter to the Texas Higher Education Coordinating Board (THECB), Commissioner of Higher Education Paredes (2017) relayed Gov. Greg Abbott’s charge to the Texas Education Agency (TEA), Texas Workforce Commission (TWC) and the THECB, in which the governor recommended greater collaboration among the three agencies. Commissioner Paredes posits this collaboration will put Texas on its 60x30TX strategic plan to have 60% of young Texans attain a certificate or degree by 2030 (THECB, 2017).

With more and more students expected in the classrooms, those students will also need support services outside of the classroom leading to an increase in the need for student affairs professionals. In a study conducted by the National Institutes of Learning Outcomes Assessment (NILOA) they discovered the need to find out how results are being used, if at all, by whom, and

for what purposes (Campbell, 2014, Kuh, 2009). Further, NILOA also found administrators rarely used assessment data in matters about policy and resource allocation nor in strategic planning. Also, Campbell (2014) posits, these findings and other supporting literature indicate a gap between the data collected and the use of the data. The findings and related literature do not examine the underlying causes of that disconnect. If administrators of higher education are under greater scrutiny from external forces, and the financial support for higher education is dwindling, then it stands to reason that administrators of higher education need to be interested in making the most informed and defensible decisions possible about such critical matters as resource allocation, strategic planning, and policies.

Assessment is a tool for student affairs professionals and administrators to use in evaluating programmatic impact and to understand the experiences of students (Ryder & Kimball, 2015). However, some student affairs professionals are said to view assessments as burdensome, even detracting from their primary task of providing students services (Ryder & Kimball, 2014). How will administrators know what services or programs to offer without assessing or even surveying their target audiences? To better serve their communities and industries, administrators must gather data, which in some cases is assessment data, to analyze the effectiveness of existing programs. This coupled with surveys of employer satisfaction or dissatisfaction of an institutions' graduates may paint a better picture of that institution's programs.

Although Chief Academic Officers (CAO) valued the assessment data; interview data showed that assessment data had little influence on CAO's decisions concerning strategic planning, policymaking, and resource allocation (Campbell, 2014). Historically, assessment data has been the means used by administrators to meet accountability demands as set by accreditation agencies and stakeholders. Since administrators are instructional leaders it is

incumbent, they are responsible for student achievement in high-stakes state-mandated assessments (Grigsby & Vesey, 2011). The study also examined principal preparation programs at 30 universities to determine whether these programs are preparing candidates to be data-driven decision-makers. They further discovered that when used appropriately, DDDM improvements in many aspects of student support including well-trained staff members able to provide improved service (Grigsby & Vesey, 2011).

Methodological literature. A review of the literature has revealed that current knowledge has been based on anecdotal evidence and limited case studies (as cited in Rabovsky, 2012). This review has discovered that there remain serious gaps in the empirical knowledge concerning the extent of performance-funding policies correspond with student outcomes (Rabovsky, 2012). Seftor, Monahan, and McCutcheon (2016), in their study, determined that policymakers and practitioners found research information provided by the What Works Clearinghouse (WWC) difficult to understand, consequently unable to make evidence-based decisions which would likely result in improved student achievement.

The WWC is a trusted source of scientific evidence for what works in education ranging from research on practices, programs and policies which it freely disseminates to the public (Seftor et al., 2016). The WWC has recently expanded its scope to include research on postsecondary education, as well as expanding its resources and products to include databases, and enhanced communication activities that provide support for non-researchers. The WWC has filled the void between research and practice by serving as a central source of information on the findings of rigorous research as well as developing tools through which to present results making them easier to interpret by non-researchers (Seftor et al., 2016),

An analysis of faculty and administrator perceptions and behaviors at 41 community colleges revealed social capital as an explicit component of the capacity of community colleges for using data on student outcomes to increase student success (Kerrigan, 2014). Community colleges are under pressure to graduate more students than ever that are more likely to be low-socioeconomic status, first-generation, and minority than 4-year colleges (U.S. Department of Education, 2012). The very reforms and policies meant to set accountability expectations for administrators are not building the organization's capacity (Kerrigan, 2014). In other words, are higher education administrators using data available to them, to their fullest to provide students and stakeholders the services and graduates they need?

The study further discovered that technical skills, or lack of them, to gather and analyze data are barriers to effective DDDM. The primary goal of accountability is improved institutional performance, and as Kerrigan (2014) points out, human and technical aspects of organizational capacity have already been explored, she examines the social capital aspect of collaboration and shared a commitment to student success. Kerrigan (2014) defines social capital as, "the wealth (or benefit) that exists because of an individual's social relationships." Further, social capital exists in and is produced by, relationships (Lesser, 2000). Trust and communication are aspects of social capital that have been examined, however, examining forms of social capital that can promote desirable behaviors and accumulated to achieve difficult objectives can provide community college leaders with new ways of thinking. For her study, Kerrigan (2014), sought to understand whether social capital and the use of data and DDDM were related. The study surveyed administrators at community colleges participating in an initiative to improve student success through data use (Kerrigan, 2014). Initially social capital was not the focus of the study,

however, the phenomenon later presented itself as a secondary finding, which brought attention to the importance of social capital to the study of DDDM (Kerrigan, 2014).

Approximately one in four college or university students may not return to college after the first year (ACT, Inc., 2016; Cox et al., 2017). This statistic has not altered significantly in the past 30 years. As a response to this startling statistic, administrators attempt to respond by offering various programs geared toward student engagement to improve experiences and outcomes by shifting their spending onto assessments. Educational quality is likely to be improved when decision-makers develop policies and implement practices informed by relevant assessment data that is, DDDM (Cox et al., 2017). However, they also discovered or rather didn't discover empirical evidence that supports claims by previous researchers that assessment practices contribute to positive student outcomes. Social capital takes time to foster. Social trust can be defined as the trust that exists between members of a group (Kerrigan, 2014). Further, this trust opens the channels of communication among individuals, which can enable sharing information among institutional departments leading to access to new information which can influence decisions in a fashion which may otherwise not have occurred had it not been for these relationships (Kerrigan, 2014).

Open and frequent communication can lead to not only effective collaboration among college departments, faculty, and staff but also to the successful implementation of new policies, programs, and practices. Collaborative efforts are often resulting from reliable analysis of data which can also be attributed to how well the users of data gathered through educational channels have been trained. Gill, Borden, and Hallgren (2014), in their study for the Bill and Melinda Gates Foundation, postulate, data have limited use—and could be detrimental—if decision-makers do not understand the benefits and limitations. The types of data relevant to the decisions

administrators are confronted with, and how data can be appropriately used for decision making might also be compromised. Kerrigan (2014) conducted a Kruskal-Wallis test to scrutinize the differences among groups or departments.

The disparities of data analysis may be attributed to the extent of collaboration and how student outcomes influenced data use among faculty. The Kruskal-Wallis test is a nonparametric test used to analyze ordinal data from a study with one variable with at least three levels (Adams & Lawrence, 2015). The results indicated that the median frequency of use of student outcomes data was about once every two-to-three years by faculty who reported little collaboration at their colleges; Kerrigan (2014) reported only a slight difference in the results from faculty who reported frequent collaboration. Results also indicated the more often faculty, staff and administrators meet and collaborate about student outcomes data, the more frequently they used data to make decisions (Kerrigan, 2014).

The business community has been using data analytics for many years driven in part by advances in technology, data storage, and data analysis techniques, including predictive modeling, that allow for complex computations with very large data sets. Dziuban, Moscal, Cavanaugh, and Watts (2012), from the Center for Distributed Learning, found that tracking a consumer's purchasing history and habits could lead a business to customize online advertising for each consumer based on those patterns. More recently administrators have begun to focus on academic analytics, or data sets used to inform faculty, students, and administrators when the data shows students are at risk; this data may also include suggestions on improvement strategies.

Campbell's (2014) exploratory thematic analysis examined how three Chief Academic Officers identify and integrate assessment data into their decision making on issues regarding

resource allocation, strategic planning and policy matters. The incremental model was described as a reasonable approach to the analysis of the issue of data analysis. Administrators did not, at the time of the original research conducted by Tarter and Hoy in 1998, have the massive computing resources that are available today, massive in their analytic capacity and mobility, not necessarily their size (Campbell, 2014). The incremental model is described as consisting of three characteristics including; “(a) good decisions are those where leadership agrees regardless of objectives, (b) only options relevant to the current state of affairs are considered, and (c) theory is only so useful” (Campbell, 2014).

Different decision processes were examined which helped connect decision making to strategic objectives which serve as a foundational element in the development of the closing-the-loop process. Of all models described DDDM is the emerging theory that reconnects educational decisions with a renewed focus on student learning, and by extension, serves to maximize higher educational outcomes (Brenneman et al., 2010). Campbell’s (2014) research also found four key anchors to DDDM: (a) focus, (b) values, (c) data literacy, and (d) availability of data (Knapp et al., 2006; Middlehurst, 2013).

Leaders must focus on how the data will be utilized and framed to be an effective tool to connect solutions to issues or to set new priorities and goals (Campbell, 2014). Values relate to how leaders and decision-makers apply “value” to a data point in the decision-making process. Literacy relates to how well one understands the data they are being presented and utilizing. Data-enhanced leadership emerges when individual decision-makers or group leaders have a high level of data literacy, contributing to the full integration of data into the decision-making process (Campbell, 2014). This further corroborates the importance of having individuals that are well trained in all aspects of data analysis an institution has at its disposal. This leads us to the

availability of data that administrators may or may not have. Administrators may find that the lack of data can sometimes be just as challenging as being overwhelmed by the over-abundance of data. This coupled with the possibility of the need for improving the literacy of those administrators who need to analyze the data to make decisions affecting departments or the institution may cause the data to be ineffective.

Capturing data is a daunting task and may require multiple methods of capturing considerable amounts of information. Swan (2009) describes DDDM as; “the use of systemically and systematically collected data to guide a range of decisions” (p. 107). If the technical mechanisms, that is, databases, computer systems, and so on, or if the social mechanisms to promote the use of the systems are not in place, then adoption of tools to capture and analyze the data to make effective decisions may be impaired (Swan, 2009). While the exact technical mechanisms such as databases and dashboards may differ, their concept of use is the same; to summarize data into a useful application.

For years administrators have been capturing student demographic data, grades, transcripts, and other archival information in paper files. This information or copies would have been transferred back and forth across offices either by physically taking them from one to the other using an internal mail system or if going longer distances via standard or “snail” mail, thus called due to its slow nature. These days this information is stored digitally possibly in data warehouses or servers and transferred from office to office also by digital means either through email or on a web-based network. Electronic databases and other digital media provide a more robust system of storage, transfer, and ease of use by multiple departments.

Departments and organizations are better able to extract the data they need in a method more conducive to data sharing when done so digitally. This also allows colleges and universities

a more cost-effective and environmentally friendly method of maintaining student and institutional records. In addition to student and course tracking information, other artifacts such as books, journals, manuals, assignments, and other course materials may also be stored digitally. Kidwell, Vander Linde, and Johnson (2000) define Knowledge Management (KM) as “the process of transforming information and intellectual assets into enduring value” (as cited in Swan, 2009, p. 108). Data mining is a relatively new concept in which companies and organizations “mine” data to extract meaningful information that could be used in numerous ways aid in student persistence as well as student success. Educational Data Mining (EDM) is a process that converts raw data coming from educational systems into useful information that could potentially have a great impact on educational research and practice (Romero & Ventura, 2010).

Further, EDM allows for the discovery of new knowledge based on data usage by its different users such as faculty, staff, and students who each seek to learn different details from the same or similar data sources. Although data mining has been successfully applied in e-commerce there has been an increase in interest in the educational realm. Different departments can look at educational information from different angles according to their mission, vision, and objectives for using data mining to accomplish their work (Romero & Ventura, 2010). Digital portfolios are a better method of retaining the vast amounts of data higher education administrators are required to retain by not only their accreditation agencies but also by state and federal laws (Swan, 2009). Further, the decreased need for physical storage space and the ability for multiple persons to access the same data simultaneously due to the powerful database features of tools such as dashboards makes the increased need to expand digital storage capacity

in higher education. Electronic portfolios and empirical examinations of available data were the primary methodologies reviewed for this study.

Review of Methodological Issues

The research was conducted primarily utilizing the online databases available through Concordia University–Portland’s Library. While several different databases were accessed, four specific databases were used to locate most of the research: ERIC, ProQuest, JSTOR, and Google Scholar. Articles were also located in other online databases which contributed to the literature reviewed. The search terms used initially to locate literature to review was limited to the following: data-driven decision making, data-informed decision making, data-based decision making, evidence-based decision making, assessment, research, and accountability. Later the searches were expanded to narrow the search to Higher Education administrators and specifically, Community College administrators.

Papers were examined based on two primary factors: relevance to the overall topic and publication date. The search process excluded most irrelevant articles which were primarily focused on K–12 student data. Best efforts were used to select research data concerning DDDM in the higher education sector published within the past 5 to 10 years, however, due to the scarcity of relevant data this topic may have reached a plateau. In other words, data have become such a reliable and routine source for higher education administrators to use in their decision making some may feel this topic no longer requires studying. Research for this literature review primarily represented a qualitative approach, very few of which employed the quantitative method, with even fewer using mixed methods. These studies focused on various factors when gathering data for making decisions. Five methodological designs are associated with qualitative research: phenomenology, ethnography, grounded theory, narrative, and case study (Creswell &

Poth, 2017). The design for this study guided the direction and depth of the research. Multiple data collection strategies (i.e., interviewing, document analysis, online questionnaires) are needed for the qualitative researcher to understand how social experience is created and given meaning (Callery, 2012).

The existence of data does not lead to improved teaching and learning in the classroom, rather, educators need a focus on using available data in higher education to fund performance-based efforts (Tandberg & Hillman, 2013), as well as to create institutional rating systems (Kelchen, 2014) and learning analytics (Wright, McKay, Miller, & Tritz, 2014); however, there is scant empirical research on faculty use of data to clarify their instructional practice (as cited in Hora et al., 2014). The study conducted by Hora et al. (2014) focused on evidence-based practices in use by faculty in making course delivery decisions. Findings narrowed the focus of data usage to classroom activities, which led me to believe that scant data resided at the administrative or institutional level.

Data gathered from student success factors in the classroom can lead to the relevance of courses offered by institutions as well as other institutional level decisions. Campbell (2014) employed exploratory thematic analysis to examine how three Chief Academic Officers utilize assessment data when making decisions about resource allocation, strategic planning, and policy-related issues, the study focused on the use of assessment data in decision making. Further, understanding how assessment data are or are not being used also advances previous work found in the literature studied (Campbell, 2014). Data used by administrators at higher education institutions vary from demographic data to test scores and entrance exams (Campbell, 2014; Grigsby & Vesey, 2011; Ryder & Kimball, 2014). Campbell (2014), in his study, discovered that the National Institute of Learning Outcomes (NILOA) conducted several studies where they

discovered that Chief Administrative Officers (CAO) were not fully utilizing assessment data in their decision making. Those studies further revealed assessment functions were underutilized and necessitated the allocation of significant amounts of time by CAOs (Campbell, 2014).

When viewing the research for this literature review it was important to keep three issues in mind: (a) the challenges of finding relevant data; (b) the paucity of data; and (c) researcher bias. As mentioned previously, there was an abundance of K–12 literature available, however, the literature on higher education was found to be extremely valuable and informative to everyday practice. During interviews or even when analyzing the data, personal biases as an instructor and staff member of a community college must not cloud or influence the interpretation of findings in this study. The literature reviewed for this study served to provide analysis of a wide array of data gathering methodologies as well as analytical methods and tools which can be used by administrators in making data-based decisions.

Synthesis of Research Findings

College administrators gather data about their students from the first time they show interest in attending their college through graduation and beyond. The objective of DDDM is to transform educators, schools, districts, and states from being “data rich but information poor” to use this data in an actionable manner (Mandinach, 2012). Meaning that although these entities possess data, they may not be using the information which this data can provide them to their advantage in making knowledgeable decisions (Dougherty et al. 2013; Mandinach, 2012; Picciano, 2012). Much of the data gathered by administrators is used to confirm or test an organization’s effectiveness measured by the number of students in attendance as well as the success of those students (Leimer, 2011). For the data these administrators are gathering to be

useful, they must use this data in their decision-making; in other words, results analyzed and interpreted to determine whether the systems or processes in place are working.

Information objectives such as student success, student interests, and faculty needs can all be determined upon analysis of assessment data gathered before, during and after any school semester. Although organizational effectiveness literature considers an institution's external environment, the neo-institutional theory focuses on the way institutional forces shape an organization's structure (Leimer, 2011). The data collected and analyzed also contribute to an organization's structural and cultural make-up. Data collection methods at different institutions may vary. The WWC summarizes research on a range of practices, programs, and policies (interventions) and is a trusted source of information of scientific evidence for what works in education (Seftor et al., 2016). In addition to an institution's data, college administrators can glean research data from WWC databases and reports to make evidence-based, knowledgeable decisions.

Effective institutional training, staff skilled in understanding and applying analytics, and leaders committed to evidence-based decision-making contribute to an institution's successful use of analytics (Dziuban et al., 2012). Without proper training, faculty, staff, or other persons interacting with the data may not be able to appropriately analyze the artifacts before them. Leadership and faculty support for data-driven decision-making includes the information technology (IT) capacity and the institutional research (IR) capacity which all contribute to the internal organizational capacity of a college to support data-driven decision-making (Kerrigan, 2010). Administrators would not be able to perform these functions without proper training in how to deal with the data they interact with daily. The more organizational components know, not only of the technical aspects of interacting with data but the pragmatic aspects as well, the

range of possible actions an organization can pursue is greater (Kerrigan, 2010). Administrators not only need training in the technology, (i.e., computer systems and software), of how to capture data, but what data they, the institution, are required to capture. What data requires capturing, analyzing and archiving may be set by accreditation agencies as well as state and federal laws. Proper use and maintenance of institutional records are key to building that institution's capacity in providing the services and meeting the goals and expectations of the stakeholders and constituents.

Critique of Previous Research

There seems to be scant research of DDDM at higher education institutions compared to K–12 schools (Cox et al., 2017; Creswell & Geutterman, 2019; Kerrigan, 2015). At a time when there is limited research on data-driven decision-making within higher education compels one to investigate colleges' capacity for using data to inform decisions which led me to conduct this study (Kerrigan, 2015). Reporting and accountability requirements imposed upon higher education institutions by state and regional accrediting agencies are easily accomplished if an institution has appropriate data gathering and analytic tools (Dougherty, Natow, & Reddy, 2011).

Most sources substantiated the need for more studies in the use of DDDM by postsecondary institutions, as well as a need to ensure staff and faculty are properly trained in the analysis of current data. Approximately one in four students who begin higher education at a 4-year college or university do not usually return for a second year (Cox et al., 2017). Further, assessment practices and DDDM yield improved student experiences and outcomes that are mostly untested. DDDM processes can be applied in classrooms to improve instructional practices as well as being used to assist administrators in setting institutional policies (Mandinach, 2012). Organizational capacity is explored by answering whether social trust,

communication channels, or norms and expectations are associated with the frequency and extent of DDDM at participating community colleges (Kerrigan, 2015). This study reviews relevant literature into data-driven decision-making to provide administrators available information leading to whether they are accessing available data to make informed decisions.

Summary

This chapter provided an overview of the literature examined for the research study delving into the ever-expanding topic of DDDM in higher education. The need for further research as to administrators using data in their decision-making process within postsecondary education exists (Campbell, 2014; Kerrigan, 2010). This study originated, in part, due to a lack of a viable database, or access to databases at a community college in Texas where I was employed. Some data were available, though they were only accessible to little more than a handful of staff members. This tends to be cumbersome for those who need to track student educational records and other data that a higher education institution needs to provide quality services (THECB, 2017).

Administrators do not only maintain student demographic data, but also assessment data, as well as faculty and staff data. If an institution cannot track faculty statistics, it may not be able to assess what programs, courses, and services it can offer its students. All data should be intertwined and viewable so administrators may be able to take a snapshot of the services ranging from the cafeteria to dormitory to academics that are available at any one time. This data should not only be available, but accessible and shareable among the departments within the institution.

Chapter 3: Methodology

Introduction

This study examines the experiences of individuals in executive positions at higher education organizations when using data to make decisions for their institutions. In higher education, many decisions are made at the executive level, yet it is still mostly unknown whether executives are using data at their disposal to make these decisions. Community colleges use their institutional effectiveness measures to inform stakeholders, potential students and the general public of their data-driven decisions, the results of this study determined that this still holds (Callery, 2012). Chapter 3 will provide an overview of the purpose of the study, the research question, the research design, the research population, sampling method, and related procedures, instrumentation, data collection, identification of attributes, data analysis procedures, limitations and delimitations of the research design, validation, and any ethical issues.

Purpose of the Study

The purpose of this phenomenological study was to explore how college executives, primarily vice presidents, at higher education institutions use data to make decisions for their organizations daily. It was also helpful to understand what types of data executives utilize to make decisions daily, and their experiences as they go about making decisions. To answer this question, I focused on Vice Presidents and executives that performed similar duties. For example, the Vice President of Instruction may concentrate on issues that affect academic programs offered by the institution. The VPSA might focus on student housing, financial aid, Greek life, and other student-specific issues. This study sought to understand the experiences higher education executives performing student affairs duties have with data at their disposal.

Administrators gather data concerning every aspect of the institution's operation, including program offerings and student experiences. Some administrators do this by analyzing the needs of local, state, and national industry and how a college can contribute to these stakeholders by providing graduates with skills to meet industry needs (Callery, 2012). Higher education institutions have been gathering and continue to gather assessment data, particularly at the culmination of a course, as well as other necessary data such as demographics and employment data. I chose to examine whether college administrators were using this and other data available to them to drive their programmatic decision-making (Hora et al., 2014).

Research Question

There is a significant amount of research on data-driven decision making, however, a review of the literature revealed that the study of the use of data analytics in higher education is still in its infancy (Dziuban et al., 2012, p. 21). In higher education, decisions are made at the executive level; yet how exactly do executives go about using data to inform their decision-making? Central question:

- What are the experiences of community college vice presidents in using data for decision-making purposes?

Responses to interview questions, questionnaires and a review of participant websites answered the main question relating to whether executives and Vice Presidents, were using the data gathered to determine: programs being offered at participant colleges as well as the services needed to support programs offered at their institutions.

Research Design

I used a qualitative phenomenological study design to examine how executives go about making decisions at community colleges, as well as how they use data to make informed

decisions for their institutions. Phenomenology has its beginnings from the German mathematician Edmund Husserl (1859–1938) and further popularized in the social and health sciences and other sciences particularly education (as cited in Creswell & Poth, 2017, p. 77). Husserl referred to any project currently underway as phenomenology. Creswell and Poth (2017) postulate that the exploration of a phenomenon, for example, vice presidents of the college, with a group of individuals who have all experienced the same phenomenon will provide access to both the subjective experiences of the phenomenon and the objective experiences of something in common with other people. College executives may share much in common from their lived experiences in higher education leadership and their decision-making activities.

Empirical phenomenological research has been described as the researcher's reflection and the interpretation of participant stories (Moustakas, 1994). To design this study, my personal experiences served as a helpful guide to discover answers to the central question; however, I also needed to set aside personal biases to ensure I did not bias findings. Focusing on understanding the meaning of the description of the phenomenon by using a common approach during the data analysis process was helpful to determining how the executives go about making decisions at their respective colleges, as well as examining their experiences with using data in making decisions (Simon & Goes, 2011).

The literature examined for this study further recommended using the methodology of reduction to analyze specific statements, collected during interviews, to tease out any overarching themes that emerged. Husserl (1913; 1931) posited that the task of phenomenology was to describe the lived world from the viewpoint of a detached observer; however, existential phenomenologists insist that observers cannot separate themselves from the world (as cited in

Simon & Goes, 2011). Therefore, I found it necessary to use an empirical phenomenological approach to examine the lived experiences of the target population.

The rationale for using this phenomenological approach was to gain a better understanding of the lived experiences of higher education executives with data-driven decision-making at their colleges in their day-to-day activities. The best method to find answers to the question being researched was a qualitative phenomenological design. To further understand why this method was preferred would be helpful to understand the philosophy behind qualitative research.

Philosophical assumptions begin with assessing where qualitative research fits within the overall research process (Creswell & Poth, 2017). Moustakas (1994), viewed experience and behavior as an “inseparable relationship” of a phenomenon (as cited in Simon & Goes, 2011). This relationship exists with the phenomenon and the person experiencing the phenomenon; for example, Vice Presidents of Student Affairs could shed on the phenomenon being investigated, decision making in the context of colleges. To get to the essence of a phenomenon, those that experience the phenomenon can best inform the process, not through numbers, but the telling of experiences (Creswell & Poth, 2017). College executives, whether their titles are vice president, dean, director or some other designation, share similar experiences with students, their institutions, and the issues and situations they may encounter.

During this study, I examined the processes that vice presidents and other executives employed at their colleges when making decisions using data presented to them to aid in making effective choices for their students and institutions. In this study, the common phenomenon was the use of data-driven decision making among executives at participant community college institutions within the same accrediting area of responsibility. It was up to me, the researcher, to

collect data concerning experiences about the data-driven decision-making of college executives so that I could develop a composite description of the essence of the experience from all data that was collected (Creswell & Poth, 2017).

Research Sample, Sampling Method, and Related Procedures

This study used purposeful sampling methods to recruit vice presidents from 2-year community colleges accredited by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC). This included colleges in Alabama, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia. I attempted to recruit a minimum of 10 executives but was only successful in recruiting eight participants willing to share their experiences concerning how they use data in their decision making for the institutions. The first participant I recruited was the VPSA at the community college where I was employed. I also contacted the three other 2-year community colleges within a 100-mile radius of my home, a reasonable driving distance, where I could travel to conduct face-to-face interviews. I employed a purposeful and snowball selection method to recruit four additional participants.

The qualitative paradigm is one that allowed me to take a holistic and situated approach toward addressing the study's purpose, which was to examine how executives at community colleges use data when making decisions for their institutions (Callery, 2012). Further, the qualitative paradigm as described by Denzin and Lincoln (2000) is a situated activity or one that occurs in a natural setting familiar to the research participant and one that places the observer in that world (as cited in, Callery, 2012). My most recent employment at several community colleges placed me in similar settings as that of those who participated in this study, which might have brought with it some researcher bias. However, this phenomenon also allowed me to

understand why or how a subject might have reached certain conclusions. It was these biases that led me to not allow myself to skew any results or conclusions brought about by the participants.

Initially, I was only going to interview Vice Presidents and when I was unsuccessful in reaching my target number of participants, I decided to expand my search criteria to executives with similar positions and duties. When I was unable to reach the desired number of vice presidents, I was finally able to recruit an enrollment executive that held a position with duties that mirrored those of vice presidents at colleges with similar aspects for participation in this study. In addition to the enrollment executive, I was also able to retain the participation of a dean as well as that of a director whose duties traverse responsibilities of my target sample in dealing with student affairs activities.

This study was not designed to examine participants with a set experience level hence, participant's years of experience in their particular positions ranged from several months to several years. Participants were chosen from the SACSCOC accreditation area of responsibility, primarily as this included colleges within proximity to my home location to enable me to travel for face-to-face interviews. Email requests for participation were initially sent to over 20 executives of colleges within the SACSCOC area of responsibility with the expectation of receiving at least 10 positive responses. I gave prospective participants approximately a week to reply and I followed up with phone calls to ask whether they would be able to participate in this research study. After only receiving responses from two participants I contacted 20 other colleges, bringing my total requests to 40, to be sure I had enough participants to form a full picture of how Vice Presidents, and other executives within Student Affairs or perform similar duties, use data in their daily decision making.

Instrumentation

Instruments were designed containing questions geared toward answering the central research question. The chosen methods of data collection included: an online questionnaire, face-to-face and telephone interviews, and a document review to complete the triangulation of data. These methods were selected to engage in the phenomenon being studied (Creswell & Poth, 2017). Pilot questionnaires were distributed to several of my colleagues, holding positions similar to the target sample for this research study, before uploading to Qualtrics and conducting interviews. This allowed me to examine the viability and validity of the questions. Modifications to the questions, as recommended by the pilot participants, were made before I distributed the questions to the research participants. Modifications included the removal of questions that were similar in scope to previously asked questions to avoid duplication.

The online instrument contained open-ended questions allowing participants to give responses beyond yes or no. Further, the online questionnaire was designed to collect information concerning topics not covered during face-to-face or telephone interviews concerning the college executive's experience in using data to make decisions. Interview questions were designed to delve into how participants went about incorporating data into their decision making beyond responses given in the online instrument.

The following table includes the questionnaire posted on Qualtrics as well as the list of initial questions asked during interviews. The open-ended nature of the interview protocol allowed me to use probes to obtain additional information when necessary (Creswell & Poth, 2017). A thorough review of documents publicly available through online sources was conducted for each participant college. The documents included meeting agendas and minutes, attendance and retention rates, graduation and dropout rates, as well as demographic data. A review of these

documents can give one an idea of an institution’s success or failure rates as well as providing stakeholders a snapshot of the institution.

Table 1

<i>Interview and Questionnaire Questions</i>	
Questions for Questionnaire	Interview Questions
1. How would you describe the way you use data in your role as Vice President?	1. Are you, or your department, required to collect and/or analyze any data as part of your duties?
2. Are you required to collect and/or analyze any data as part of your daily duties?	a. What types of data do you collect (i.e., demographics, personal, recruitment, etc.)
3. What types of data do you collect? Quantitative? Qualitative?	b. How do you collect this data (i.e., paper/pencil forms, computer, personal interviews, online capture/self-report)?
4. Where do you store the data? (i.e., a database, an Excel spreadsheet)	2. Do you use the data collected to make decisions that affect the daily operation of your college/campus? How?
5. Do you use the data collected to make decisions that affect the daily operation of your college/campus? How?	3. Can you describe your decision-making process and how you use data to go about this?
6. How do you use data collected from other departments?	4. Do you use data collected from sources other than yourself (i.e., make decisions by your authority) to make decisions on a day-to-day basis? Provide examples?
7. Can you describe how you go about making decisions that affect the daily operations of your campus?	5. What is your primary source of data collection (i.e., surveys, discussions at meetings)? Why?
8. Provide examples of how you go about making decisions that affect the daily operations of your campus.	6. Provide an example of a decision you might make that might not require you to have extensive data?
9. What is your primary source of data collection (i.e., surveys, discussions at meetings)? Why?	7. How does your institution capture data to determine student interests? Does this data affect day-to-day operations? How?
10. Provide an example of a decision you might make that might not require you to have extensive data?	8. How does your institution use this data to make changes?
	9. Have any improvements been made as a result of decisions made using data vs not using data? Explain.

Table 1 (continued)

10. Is the data being captured presented to anyone outside of the college? To whom and for what purpose?
 11. Does the college use data to make decisions on either: curriculum, program planning, program review or evaluation, long-term strategic planning, budgeting, and allocations, or identifying areas for improvement at the college? How?
 12. Is there anything else you would like to add?
-

Data Collection

I conducted five steps to qualitative data collection as described by Creswell and Poth (2017) namely: identify participants and sites to be studied, gain access to the individuals and sites by gaining appropriate permissions, consider what types of information will best answer the research question, design the data collection instruments, and finally administer the data collection, which I accomplished before collecting data for this study. During this study, I employed three data collection methods to ensure a triangulation of data (see Table 2): personal interviews, questionnaires, and a review of documents available on participant college websites.

I emailed requests for participation initially to over 20 executives of colleges within the SACSCOC area of responsibility and distributed preliminary questionnaires to each with the expectation of receiving at least 10 positive responses. I gave prospective participants approximately a week to reply whether they were going to allow me to interview them either in person or by telephone. After only receiving responses from two participants I contacted 20 other colleges, bringing my total requests to 40, to be sure I had enough participants to form a full picture of how Vice Presidents of Student Affairs and other executives use data in their daily decision making.

Table 2

Data Collection Methods

Data Collection Method	Completed
Face-to-Face Interview	4
Telephone Interview	4
Online Questionnaire	6
Document Review	8

Before conducting the personal interviews and participants responding to questionnaires I sought permission from each of the campus presidents and upon receiving approval sent each participant a letter of informed consent for them to sign and return to me. Two of the participant locations required I submit “Research Request Forms” to their local Institutional Review Boards (IRB). Once I received approvals from each location, I was able to begin conducting interviews which were conducted either in person or via telephone, depending on which was mutually convenient based on the executive’s geographical location, and my ability to travel there.

The open-ended questions for the online questionnaire were posted on Qualtrics to ease participant access and responses as well as data collection and sorting. A review of publicly available documents was conducted to help me understand the central phenomena being studied. The documents reviewed included: demographic information, graduation, and credential award rates, enrollment and attendance reports. The documents collected were in the language and words of the participants and were ready for analysis and served as substantiation and confirmation of the data being provided during the interviews and online questionnaires (Creswell & Poth, 2017).

Interviews. I conducted interviews with Vice Presidents and other executives, who perform similar duties, of colleges within the SACSCOC to achieve diverse responses to the questions. Face-to-face interviews were conducted at the participant's colleges located within a 100-mile radius of my home and telephone interviews for those participants whose locations were not within a reasonable driving distance. Participants were emailed copies of the questions before their interviews so they would have an idea of the scope of the questions I would be asking them.

I conducted four personal interviews with participants recruited from within a one to three-hour drive of my home. Four participants at colleges that were not within a reasonable driving distance were interviewed via telephone conference using the same questions as those used for the face-to-face interviews. I recorded all interviews, both face-to-face and telephonic, to not have to rely only on my memory and notes taken during the interviews and any follow-up conversations. This also ensured I did not interject my interpretation of what or how participants were answering the questions or guide them in the direction of my design. Taking an interpretivist approach allowed me to adapt my questions to fit the participants and the methods they may employ when dealing with different issues at their campuses (Rubin & Rubin, 2005).

Online questionnaires. An online questionnaire was hosted on Qualtrics for which participants were sent a link where they could access the questions at their leisure but were requested to return as soon as practicable. The online questionnaire was posted on Qualtrics to collect responses and aided in data analysis. One drawback to the online questionnaire was that this method did not allow for use of probes or subquestions to explore the participant's response content. However, for any responses requiring further explanation from the participant I contacted via either telephone or email or I had them expand on concepts during their interview.

Documents. A review of documents and reports available online at participant colleges' websites was conducted to complete the triangulation of data gathering. The third method of data collection consisted of a review of openly available documents which served to corroborate and elaborate on participant's responses to both interview and online questionnaires based on their reported data. Documents and reports were located on publicly accessible web pages and are the same evidentiary data presented to the college's consumers, supporters, and overseers. This form of data gathering provides the advantage of being in the participant's language and ready for analysis (Creswell & Guetterman, 2019). Participants were informed of the use of publicly available data when I was seeking their initial consent as well as that of their respective site presidents/supervisors. Documents were examined for accuracy, completeness, and usefulness in answering the research question in this study (Creswell & Guetterman, 2019).

Sequence of data collection. Once I received permission from the campus presidents for their executive to participate in the study, I emailed requests along with informed consent documents. In the email, I informed the executive that I had their president's permission to conduct the study on their campus and their participation was entirely voluntary. I initially had two participants that preferred not to participate due to time constraints, so these two participants needed to be replaced by others. As I received positive responses from the participants my email reply thanking them for agreeing to participate included a link to the online questionnaire requesting, they complete at their earliest convenience and included a request to schedule the interview as soon as practicable. I completed the interviews with the executives located within the closest proximity first then scheduled telephone conferences with the others.

I began my document review as I was sorting and coding the interview transcripts. I reviewed the Qualtrics website regularly to evaluate the completed questionnaires. All

recordings, documents, and notes are being secured and stored for the required length of time, based on state and college requirements in a locked cabinet.

Identification of Attributes

Qualitative phenomenological studies require the researcher to observe and report on a phenomenon as participants are living the experience (Creswell & Poth, 2017). To formulate my research, I began with the following search terms: data-driven decision making, data-informed decision making, data-based decision making, evidence-based decision making, assessment, research, and accountability. Since Vice Presidents and executives of community colleges were the subjects of this study, I needed to determine the specific duties of those executives, which allowed me to focus on what type of data they might need to perform their duties. For this study, I focused on the VPSA(VPSA) and other executives conducting similar duties. At most colleges, the primary duties and responsibilities for these vice presidents include but is not limited to: the planning and direction of all programs dealing with student leadership and engagement, residence life and housing, counseling services, career services, campus recreation, and in some cases recruitment and retention. This list is not all-inclusive and some administrator responsibilities may not include some of these duties but may include others, these were noted on the participant responses to interviews and questionnaires.

With the above duties and responsibilities in mind, using the CVF as a guide help me understand the characteristics of the vice-presidential culture and leadership types in a community college setting. During my literature review, I also discovered from Cameron & Quinn's (2006) study that community colleges displaying the attributes of Clan or Adhocracy (see Figure 1) tended to favor a climate towards a commitment to producing effectiveness and innovation (as cited in Callery, 2012). Further, I also found that colleges having an orientation

toward Hierarchy and Market tended to be more controlling and incremental when it came to institutional effectiveness. These are attributes I was able to affirm during this study, which existed at participant colleges and still hold in the community college setting. Through this study, I was trying to understand the shared experiences of college executives when using data in making decisions to gain not only knowledge but also their best practices.

Data Analysis Procedures

Analyzing the qualitative data that I collected for this study required that I transcribe all recordings, download all online responses, sort through all notes, and download all online responses from online questionnaires, then prepare it all for analysis to formulate answers to the research question. The five steps for data analysis included: (a) collecting the data, (b) prepare data for analysis, (c) read through the data, (d) code the data, and (e) code the data for the final report (Creswell & Poth, 2017). Preparing data for the analysis required that I transcribe my notes and recordings for sorting and analyzing.

Collecting the data. I segmented the coded data into thematic groups and assigned a code label to them. After the data were coded and analyzed to discover descriptions and themes, I wrote up the findings to the research question. The data needed to be sorted and placed into tables and figures to best depict the results of the research, and to construct a narrative explaining what was found.

Preparing data for analysis. Once the interviews, questionnaires, and document reviews were completed, I sorted and prepared the data for analysis by organizing the materials by type, that is, interview transcripts, questionnaire responses, and document reviews. I listened to and transcribed all interview recordings and began sorting the materials. All questionnaire responses were downloaded and began a review jotting down thematic notes in the margins to ease coding.

Read through the data. I read through the transcripts and questionnaire responses to get a general sense of the material before me. During this phase, I determined if any analogous themes emerged and began to code the data. I located text segments and assigned code labels to each to develop a general picture that was developing during transcription.

Code the data. I created data tables listing the codes, themes, and the number of occurrences throughout the transcripts and downloaded questionnaire responses. This led me to create and separate codes into text segments and categories determined from the data. Once the data was sorted and coded and themes determined, a picture of how participants of this study use data to perform their daily duties effectively began to emerge. Assessment of these data also gave me, the heuristic researcher, and participants the full story elucidated through the documentation of these individuals which was downloaded from their websites (Moustakas, 1994).

Code the data for the final report. After analyzing the data gathered from the interviews and questionnaires, I expected to find an increase in the use of data by executives when making daily decisions based on the data at their disposal. The reason I expected to find an upsurge in data use from earlier studies is based on my personal experience within the community college culture. An increase in pressure for greater accountability from federal and state governments, as well as the public, drives more interest in data-driven decision-making (Kerrigan, 2010). If a college is wanting to increase their public funding, then it is incumbent upon them to provide substantiation of student success through the open presentation of their data.

Limitations and Delimitations of the Research Design

This study was limited to executives employed at community colleges within the SACSCOC accrediting agency area of responsibility to establish similarities and/or differences in the data-driven decision-making processes. A purposeful sampling of participants was used to select individuals more likely to respond to questionnaires and participate in interviews. The executives that participated in this study held positions primarily concerned with activities directly dealing with student life outside of the classroom, affording another limiting aspect. For example, these administrators deal with: residence life and housing, counseling services, career services, campus recreation, the planning and direction of all programs dealing with student leadership and engagement, and in some cases recruitment and retention (<http://www.wesleyan.edu/>, 2018).

One of the greatest limitations of studying executives in this position was time. Since these executives are concerned with students during their time out of the classroom, which in many instances is greater than the time in the classroom there, the executives' time was limited. These executives are concerned with ensuring students are prepared for class by making sure students have housing and daily meals and are also concerned with student's overall safety and well-being, that is, if students are taking care of themselves by eating properly and have a safe place to study after hours and sleep.

These executives also dealt with student's information that may be confidential, which also was a limitation of this study since they are not at liberty to share this information with anyone not allowed access. Some of these issues also included information concerning Title IX topics such as sexual harassment, LGBTQ issues, and other similar concerns. Since these topics are of such a sensitive nature this study briefly touched on state and local laws and training being

presented to students, staff, and faculty, as well as any preventative measures the colleges offered

Validation: Credibility, Dependability, and Trustworthiness

The design of any study needs to be such that the inferences drawn are true and correct (Creswell & Poth, 2017). I ensured the validity of this research by not interjecting my personal biases when designing my data-gathering instruments. To do this I made sure the questions were aimed at finding direct answers to the central question and did not guide any responses in the direction of my own making.

Credibility. Some of the precautions I took to ensure the trustworthiness of the data was to record all interviews with the written permission of each participant, providing them with transcripts of these recordings for member checking. Recordings were sent to the participants via email after they were transcribed for their review and verification. Copies of the actual recordings were maintained and will be kept for a minimum of five years which is a Texas state requirement. Recordings were made available for the dissertation committee and other officials or participants if requested. Copies of questionnaires and transcribed responses were also stored in secure files, as required by the institution's IRB, and are available at their request. All notes have been stored and maintained for the required length of time and are also available for review upon request. Triangulation was achieved through conducting personal interviews, online questionnaires and corroborated by the document review.

Dependability. To assure dependability of the data I made sure I did not interject my own biases into the responses by ensuring transcriptions of the actual recordings and not my notes and interpretations of the responses to verbal questions. Creswell and Poth (2017) offered guidelines from the APA sixth edition, which provided suggestions on how to minimize biased

language in my report which was incorporated. Some suggestions from the APA (2010) on what language to avoid include: demeaning attitudes, including biased assumptions, and awkward constructions that suggest bias because of gender, sexual orientation, racial or ethnic group. All of these suggestions were adhered to throughout this manuscript.

Trustworthiness. I ensured study participants provided answers to the online questionnaires in addition to their interviews to aid in the triangulation of the results, and I have included those responses in Chapter 4 of this report. To achieve trustworthiness, the data for the study were analyzed and coded to find common themes and results were encoded with the language of research to enhance the acceptability of my research by those reading this report. The data collected from all sources included: interviews, questionnaires, and public documents search provided the evidence needed for the findings.

Ethical Issues in the Study

Several ethical issues came to mind for this study, for example, since the participants in this study deal with many students in personal situations out of the classroom, they need to keep a lot of the information or situations they deal with confidential. The only issues that may have come up for discussion in which participants may inadvertently reveal confidential information would be any discussion of Title IX issues; however, participants kept these discussions general in nature. Answers to some of the questions may have lent themselves to reveal more information than the interviewee initially intended. Such questions were not readily apparent to me initially, though I needed to respect the participants' wishes if they did not want to answer particular questions, even if they did not want to elaborate on why they did not want to respond.

Informed consent. Requests for permission to conduct my study at participant colleges were emailed to the presidents. Once I received the signed permission from the college's

president, I then sent consent forms to the participants which outlined what participation in my study entailed. After receiving their signed consent forms, I then emailed the link to the online questionnaire to the participants and set up appointments to interview the executives of colleges within a reasonable driving distance of my home.

Confidentiality and data management. The interviews took place at the participants' offices to keep them in a comfortable environment where they felt free to share as much or as little as they wished. I also informed the participants before asking them any questions that I would be recording the interviews. The participants all gave me a verbal approval for the recordings. I also reminded participants of the contents of the consent form and if I had not received it before coming to the interview I had them sign the consent form before asking any questions. I also informed participants that I would be retaining copies of the transcribed recordings in a locked cabinet for the requisite amount of time and they would be available for review upon request. Recordings (i.e., electronic files deleted) were destroyed after transcription, transcripts, copies of manuscripts and all notes (i.e., electronic as well as printed documents) will be shredded after the amount of time required by the IRB.

Summary

The results of this study demonstrate the experiences executives of community colleges have when making decisions as well as, how they are using data being gathered for their institutions when making decisions. This chapter also included the rationale behind selecting a qualitative phenomenological design which was to study the lived experiences of the participants providing a firsthand account of their decision-making processes and their use of data in making informed decisions to assure the effectiveness of their departments and institutions. Some feel that it is no longer enough to rely on one's "gut feelings" or opinions when making decisions but

they should rely on what the data being gathered is telling them (Mandinach, 2012). Interviews, questionnaires and document reviews made finding answers to the central research question possible. Sorting through all responses made finding central themes participants use in data-driven decision-making possible. Themes of collaboration and communication within departments as well as when sharing with other departments and colleges. This study examined both the lived experiences executives at participant colleges had in making decisions as well as how they were using data to make informed decisions at their institutions.

Chapter 4: Data Analysis and Results

Introduction

College executives make decisions that can affect their institutions, from the people they employ to the students who are enrolled. This qualitative phenomenological study was designed to gain a better understanding of how college executives use data to aid their daily decision making. This methodological approach was selected because I was interested in understanding the participant's lived experiences within the community college system (Creswell & Guetterman, 2019; Simon & Goes, 2011). Giorgi and Giorgi posited that a phenomenological approach gives researchers a method to capture a phenomenon within the given context (Davidson, 2013). By recruiting a range of community college executives and having them discuss their decision-making processes, I was allowed to investigate the process they may go through to first, make decisions, and second, how they use data to make decisions within their college environments.

Although the college executives which were the focus of this study may not consult their spreadsheets daily, their tacit knowledge of the data being gathered by personnel at their institutions seems to always be on the fringes of their thoughts to aid making decisions-on a daily basis. I focused my research on executives of community colleges within the SACSCOC accrediting agency. One of the strengths of qualitative research is that findings from these types of investigations may be transferrable to other settings, for example, 4-year colleges in other accrediting areas (Anderson, 2010). Another strength of qualitative research is that the data being collected is based on human experience which is sometimes more compelling than quantitative data (Anderson, 2010). This qualitative study used a phenomenological philosophy of

description as a methodology that uses interpretation (Anderson, 2010). Hence, this study was designed to answer the following question:

- What are the experiences of community college vice presidents in using data for decision-making purposes?

This chapter includes a description of the data collection and analysis process, the steps used in this study for coding transcriptions and online questionnaires, and for assessing supporting documentation to identify themes. Also, the chapter will illustrate how the data analysis was conducted to answer the central research question.

Description of the Sample

Using a purposeful sampling method, eight executives from five community colleges located within the SACSCOC accreditation area were recruited to participate in this study. Initially, I was seeking responses from community college executives primarily in the role of Vice President of Student Affairs. When I did not receive the expected responses, I cast a wider net to include deans and one director for several reasons. First, not all colleges, due to their size and locations, have a vice president role, and second, the individuals in dean and director positions also use data to ensure they are making well-informed decisions in the performance of their duties and are considered executives at their institutions. Study invitation requests were emailed to prospective participants. I interviewed: five vice presidents, one management executive who performs similar duties as a vice president, however, the institution had changed titles, one dean, and one director. All perform duties directly related to student affairs including the dean, who also performs duties related to student affairs. The duty lines between the dean and vice president, academic and nonacademic are quite often blurred, particularly in a community college setting, as well as when a college is in a rural versus urban location, which was a

characteristic recorded during this research. For this study three of the participant colleges were in urban locations and five colleges were in rural locations. Table 3 lists the number of participants by title.

Table 3

<i>Participants</i>	
Position	Quantity
Vice President Student Affairs/Development	5
Dean of Nursing	1
Campus Enrollment Executive	1
Director of Testing and Student Affairs	1

Participant A. VPSA for over 10 years at a larger, state-funded, 2-year, residential college. The chancellor of this college oversees 10 campuses located around the state. The VPSA establishes and monitors departmental policies for all campuses to ensure compliance with state and national requirements. However, local events and activities are planned and monitored by the local campus and designated local Student Affairs/Activities Director.

Participant B. The Vice President of Student Services has been at this larger, state-funded, 2-year commuter college for over five years. This community college services a suburban area with five other locations in nearby communities. In addition to the five suburban locales, this Vice President oversees the main campus of over 4,000 students, establishes and monitors departmental policies for all locations to ensure state and national compliance. This executive oversees a staff of over 12 directors, deans, and department heads.

Participant C. This rural campus VPSA oversees the main campus with two additional rural campuses located within a 100-mile radius of each other. This vice president has only been at this location for three months where he came from a larger, more urban, community college in

another state where he served in a similar capacity for over two years. This college services over 40 school districts in this rural area.

Participant D. This college executive serves as the Dean of Nursing at a rural college. Although in a rural community, this program's graduates are known to become employed at various urban hospitals and doctor's offices. This dean ensures the students are prepared for the rigorous state and national licensure exams and has been able to maintain the 80% pass rate required for state and national certification in their 5-year tenure.

Participant E. The Director of Testing and Student Affairs serves in this capacity to ensure the needs of this rural community's campus, which serves a student body of over 600 students, are met. This director has been at the college for over 10 years in various staff positions before assuming student affairs duties and when duties and titles shifted was assigned as Director of the Testing Center and Student Affairs. This Director's student affairs duties include conducting activities for the local students which include: new student orientation, holiday events, as well as assisting in recruitment and retention rallies in addition to the testing duties.

Participant F. This Vice President for Academic and Student Affairs oversees the wellness and success of over 4,000 students enrolled at this college which consists of two campuses and five satellite centers. This Vice President has been in their position for over three years and supervises a staff of over 10 personnel. Their focus is on the overall health of the student from registration to graduation.

Participant G. This Enrollment Management executive has held this position at this state-funded, rural, commuter college for over four years. Throughout their tenure, this college has undergone some shifting in position titles, however, overall duties have not changed. This campus has also undergone some major additions, that is, a new building housing the industrial

and EMT programs as well as support staff. This executive must ensure the smooth operation of these programs as well as ensuring the availability and maintenance of facilities.

Participant H. The Vice President of Student Services of this mid-sized suburban college manages a staff providing services ranging from Academic Advising, Counseling, Career Development, Writing Center, and several other services that ensure the success of their students. The college consists of the main campus with two campuses in suburban locations as well as two smaller sites. This executive oversees the planning and scheduling of various activities and programs to ensure all students' needs are met.

Research Methodology and Analysis

Instruments and methods used for gathering and analyzing data included: eight in-depth interviews, six participants completed follow-up online questionnaires, and archival data along with supporting documentation were retrieved from online resources for all participants, providing triangulation of data for this study (Creswell & Guetterman, 2019). The methodology and instruments were well suited for this study based on the empirical phenomenological nature of the data being gathered and observed experiences (Moustakas, 1994). Interviews consisted of open-ended questions and dialogue with the participants. I aimed to determine what the experience of data use means for the executives who collect data, and how this data is used in decision making. Questions were developed to elicit insight into whether executives were analyzing the data the college gathered to make decisions daily and whether they shared the data with colleagues to help them make informed decisions.

Data collection. To conduct this study, I selected participants based on their membership in SACSCOC. Consent for college site involvement in the research was obtained from each facility president or chancellor and informed consent was obtained from each of the participants.

The research methods consisted of three different approaches adopted to the purposeful sample of participants. The first approach consisted of in-depth semistructured interviews with eight participants. These interviews lasted between 60 to 90 minutes each. Some were conducted in person, others were conducted by telephone; all were digitally recorded for transcription. Of the eight interviews, four were conducted face-to-face, and four were conducted via telephone due to the participant's geographic location making travel a burden. The face-to-face interviews were conducted in participants' offices, their environments, which allowed them to feel more relaxed and willing to respond with candor.

The second data collection method was an online questionnaire, which was completed by six of the participants. These were accomplished at each participant's convenience which took well over two months to collect the responses. Questions, both for the interviews and online questionnaire, focused on how college executives describe their experiences in using data to make decisions in their institutional roles. Participants described positive experiences when using data to assist in their decision making, particularly in their departments, however, some mentioned not knowing how data they are providing or sharing with, other departments are being used.

The third data collection method consisted of a review of public documents on participant college websites as well as reviewing agendas from staff meetings and training sessions at participant colleges. Gathering data on participant websites provided a method to validate the evidence being assembled, which helped me understand the central research question of an executive's experiences in data-driven decision making (Creswell & Guetterman, 2019). Each of these methods served as a triangulation of various data sources which provided an in-depth analysis through comparison information and reports openly available. These methods, as with

all qualitative research, allowed me to qualify my findings by providing evidence to substantiate my analysis (Anderson, 2010).

Two sets of questions were developed, one for the online questionnaire and one to be used when conducting the interviews; face-to-face interviews took place at participant's offices to ensure they were in an environment comfortable for them. The questions (see Table 1) were different enough to gain alternative aspects of the central research question guided by the naturalist philosophy described by Rubin and Rubin (2012) and developed to allow me the opportunity to construct a portrait based on the nuanced stories of the participants interviewed. Both questionnaires consisted of open-ended questions broad enough for participants to share their views relatively unconstrained by my perspective or biases (Creswell & Guetterman, 2019). I endeavored to ensure the questions required more than just a yes or no response. When this was not entirely possible, I made sure to ask follow-up questions which allowed the participant to elaborate on why they may have responded yes or no. All interviews were recorded to ensure that transcripts captured participant responses exactly rather than having to rely on my memory, note-taking or my interpretation of what the participant said.

The document analysis served to corroborate and elaborate on participant's responses to both interviews and online questionnaires based on their reported data. Documents and reports were located on publicly accessible web pages and are the same evidentiary data presented to the college's consumers, supporters, and overseers. This form of data gathering provides the advantage of being in the participant's professional language and ready for analysis (Creswell & Guetterman, 2019). Participants were informed of the use of publicly available data when I was seeking their initial consent as well as that of their respective site presidents/supervisors.

Documents were examined for accuracy, completeness, and usefulness in answering the research questions in this study (Creswell & Guetterman, 2019).

Meeting minutes for staff meetings at three of the participant colleges were reviewed which confirmed information obtained during the interviews. Agendas and notes collected during training sessions were also reviewed. These notes revealed a new online curriculum, online tests and grade tracking databases, and online simulation training. These data collection methods aided in the triangulation of information for this research study.

Data analysis. A systematic, narrative analysis was conducted to create codes using constant comparison, find underlying themes that developed from participant responses, as well as patterns I detected in the responses, which helped me determine categories based on participant responses. My goal was to begin coding the data as soon as it was collected, looking for themes and ideas for analytic consideration as I progressed through the data gathering phase (Saldaña, 2015). These data led me to use elemental coding methods as the initial approach to my analysis, as these methods build a foundation for future coding cycles (Saldaña, 2015). In Vivo coding was the primary method I employed throughout my analysis which allowed me to use each participant's language for the codes regarding how they experienced the execution of their duties as executives in a higher education institution (Creswell & Poth, 2017; Saldaña, 2015). The phenomenological nature of this study led to the use of in vivo coding in analyzing documents and transcriptions of interview recordings. This type of coding allows for prioritizing and honoring the participant's voice (Saldaña, 2015).

Participants discussed, both during interviews and in their questionnaire responses, how one of the biggest barriers to data use was lack of time (Immen, 2016). A lack of time in the ability to gather and analyze what the data indicates but that the results have implications across

an institution's program offerings, support services, and outcomes, among others. In seeking to understand the lived experiences of college executives in their use of data to make decisions, I sought to shed light upon these experiences to inform practices that help others in these same or similar positions for their colleges to operate effectively.

Participant B discussed decision making at their level of management was not “so spontaneous from the standpoint when we're making fiscal decisions” as executives need time to review departmental data and how it affects the operation of the institution. I also sought to discover where data, at participant colleges, being collected was going and whether anyone else at the college was using the data to make informed decisions. If someone else was using the data being captured, it was also useful to understand what types of decisions were being made or could be made with this data. The results of this research allowed me to incorporate the best practices discovered during the study into my efforts while working in the educational field.

Summary of the Findings

One-to-one interviews, online questionnaires, and document/artifact analysis provided a greater insight into how community college vice presidents and administrators used data in making daily decisions. Data were collected and analyzed manually as I progressed through the face-to-face interviews where similar value themes began to materialize. The theme that emerged as most prevalent throughout all of the interviews was that all participants place collaboration amongst departments or with others as the top imperative in decision making. While departments are completing their data gathering and analysis when dealing with an issue these executives found it necessary to collaborate with either someone else in the department, college or at another college, that may be dealing with a similar issue.

Data collection for this study was followed by sorting to organize and identify exactly what artifacts were at my disposal, and how to make sense of what the participants were trying to convey in their interviews and questionnaires, without interjecting my interpretations and perceptions based on personal biases. Once the data was sorted, I sought out patterns and themes in the responses which led to establishing categories for how participants used data to make decisions, these categories are outlined in Table 4.

Table 4

Categories

Operational	Functional	Human Element
Tracking	Funding	Communication
Staffing	Evidence	Collaboration
Resources	Forecasting	Needs
Return on Investment	Trends	Participation
Strategic Planning	Strategies	Conflict Resolution
Institutional Effectiveness	Analysis	Responsibilities
Improvements		Experience

Research question. What are the experiences of community college vice presidents in using data for decision-making purposes? Five executives at institutions interviewed for this study report data to a central “System Office” which oversees each institution’s overarching or statewide operational and functional progress while the day-to-day operation is left to the local Presidents, Vice Presidents or other executives acting in this capacity. It is important to note that not all institutions used the same titles for their executives, however, many of them perform similar functions to that of their counterparts at other institutions holding vice president titles.

Some institutions used the title of manager, others director and others left similar duties to the departmental dean.

No matter the title the inherent duty of executives is to analyze data at their disposal to ensure the attainment of goals outlined in their strategic plans. Participant B relayed that it is up to each of the units within a department at their institution to define the data they use to measure and ensure alignment with the institution's overall strategic goals. Keeping this goal in mind is what guides the executives toward their decision making.

A review of participant websites and documents available for download such as graduation and completion rates, student to faculty ratios, facility usage, student enrollment rates, as well as attendance cost breakdowns. I was also able to obtain meeting minutes and notes from participants which provided evidence to support findings revealed during their interviews. Also, discovered within the documentation was basic student demographic data and other information which could be useful for potential students in deciding where they would like to seek their higher education as well as industry partners when looking for potential employees. A wealth of publicly accessible data was found for participant institutions which could be helpful for potential students seeking to attend these colleges and to their parents when helping their child decide on where to attend. This information is also helpful for states or other stakeholders to substantiate a college's need for funding, enhancements, renovations or other forms of support.

The college executives interviewed for this research study describe their experiences in decision making as one that requires data and forethought about what resources they have at their disposal. This data gathering and analysis require collaboration and communication with and amongst departments to compare results of items such as the end of term surveys as well as

customer satisfaction data or student success data provided by colleagues at meetings. This data provides the evidence needed to substantiate any decisions being made by these executives.

Data is gathered throughout the year from various sources ranging from student satisfaction surveys, housing satisfaction surveys, end of term surveys, classroom assessments, student engagement surveys, Noel-Levitz interest inventories, available databases, focus groups, and other historical data providing trends for analysis. Some departments at different colleges collect data for their analysis and use, and others rely on the data gathered either by the institution itself or other departments for analysis. Institutions having statewide constituencies place more of an emphasis on a centralized decision-making body with standardized policies and procedures as well as many shared resources and funds.

Results of this phenomenological study determined that having data available for decision making is essential for providing evidence that may lead to funding, confirmation or refutation of satisfaction, student success and college operational needs. Some day-to-day decisions may not require a lot of data, especially those involving the human element on a personal level, states Participant B, however, these decisions may require executives to be adept in the fundamental awareness of resources available to them. Participant B further explains decisions, at the executive level, that may not require extensive data as;

things that have to do with the human element, problems that happen just dealing with the day-to-day student issues that come up that might not require so much a data point. Such as dealing with an angry or frustrated person or something like that, so I guess you would say when the human element [is involved], like a complaint. I'm also over Title IX which looks at all of our complaints of discrimination or sexual [harassment] or gender or that

kind of thing, just other classes [of complaint]. So, we're not so much focused on data when it has to do with the human element.

Presentation of the Data and Results

The terminology and phrases used by the participants led to discovering underlying patterns, themes and conclusions, which emerged from the documented data via questionnaires, and interview transcript analysis. Prominent themes consisting of collaboration amongst departments, cooperation with internal and external entities, communication and data sharing amongst colleagues both internally and externally to the department and college all provided a deeper understanding of the research question for this study. These themes provided a rich description of participant's experiences in data-driven decision making at the executive level as one requiring: background knowledge of resources available to them, contextual knowledge of their institution's policies and procedures, and evidence to substantiate any decisions made within the scope of their relative authority.

Participant A, during her interview, stated that decisions are an easier sell to supervisors or stakeholders if they are backed by data. Participants in their online responses stated they analyze data collected by their departments as well as that of other departments, and use their analyses to make or suggest improvements, and to make any necessary adjustments to staffing in support of scheduled or unscheduled activities. The following table lists the major topics discovered upon review of interview transcripts and responses to the online questionnaire and their reoccurrence among participants (see Table 5).

Table 5

Responses

Question # Topic	Response	Reoccurrence
1 Method of data use	Experience	1
	Collaboration	4
	Evidence	3
	Measures	2
	Reporting	1
	Affects	1
	Analysis	3
2 Requirement	Determine trends	2
	Resource analysis	3
	Rudimentary knowledge	1
	Comparative data	3
	Analysis	3
3 How collected & used	Surveys	7
	Evaluations	5
	Analysis	5
	Trends	4
	Shared data/collaboration	3
4 Daily data use	Evidence	3
	Reports	2
	Results	3
	Responsibilities	1
	Resources	5
	Implementation	1
	Collaboration	8
	Funding	4
	Forecasting	1
	Tracking	1
Comparison	1	
5 Office Interaction	Evidence	3
	Cooperative	3
	Collaboration	9

(continued)

Question # Topic	Response	Reoccurrence
6 How shared	Surveys	7
	Collaboratively	8
	Email	2
	Meetings	8
	Central Repository	1
7 How captured	<i>Effects: Climate, values, performance, budget, transparency</i>	
	Surveys	8
	Scheduling	5
	Personnel	2
	Human element/interactions	9
8 Data not required on decisions	Meetings	
	Microanalysis	3
		2
9 Method of capture Student Success	Reports	3
	Surveys	5
	Evidence	4
	Community surveys	7
	Classroom results	8
	Focus groups	1
10 Changes made (institution)	Vitality	2
	Evaluation	4
	Evidence	8
	Inform decisions	2
	Staffing	2
11 Changes made (departmental)	Functional decisions	3
	Operational	3
	Internal staffing	4
12 Improvements made	Single stop admission	2
	Internal counseling	2
	Career paths	1
	Operational	5
	Quality of faculty assessments	1
	Services	2

(continued)

Question # Topic	Response	Reoccurrence
13 Data presented externally (Yes/Purpose)	Evidence	4
	Collaboration	3
	Unknown	2
	Funding	2
	Reports	2
14 Other uses	Budgeting	5
	Trends	8
	Evaluation	5
	Teamwork	1
	Private vs public college preferred not to share data	1
Other comments	Decisions contribute to the overall success	1
	College size affects requirements	1

From these topics and categories emerged the main themes: collaboration with other departments, cooperation with internal and external entities, and communication amongst colleagues and data sharing. Some of the topics discussed by participants crossover into each of the themes, for example, topics within the operational category require collaboration amongst departments and to collaborate effectively one must be able to communicate their needs and to communicate they may also need to share data to reach a cooperative conclusion. These topics and themes are outlined in Table 6. A review of staff meeting minutes available online, as well as those provided by research participants, revealed cooperation among departments in sharing resources leads to a better return on investments made on equipment and staffing.

Table 6

<i>Themes</i>			
Collaboration	Communication	Cooperation	Data Sharing
Operational	Operational	Operational	Operational
	Functional		Functional
Human Element	Human Element	Human Element	Human Element

Collaboration amongst departments. Collaboration with other departments and outside resources mentioned at least twice or more during each interview, appeared to complement the foundation for success for both students as well as institutional effectiveness. The questions they placed before those researchers and theorists were seeking to find similarities between productivity and efficiency as well as between productivity and the value placed on human resources (Arsenault & Faerman, 2014). This is a concept I was seeking to discover with this study in what effects social capital theory played in data-driven decision making. Having access to data and being able to collaborate with other departments on campus as well as at other institutions only helps an institution achieve its goal which is to educate students.

When it came to sharing information amongst departments Participant G stated, “it’s all the same institution’s intellectual property whether enrollment services or financials or recruiting came up with it.” Participant C stated that at their college “hear all-tell all” sessions are conducted to receive feedback from students about their needs which may help the department ensure appropriate services were being provided to students to ensure a successful college career. Participants mentioned this was helpful when they were discussing sharing data that was gathered from students with other departments and working together assuring departmental goals were aligned with the institution’s strategic plan. Having background knowledge that comes from satisfaction surveys, enrollment data, departmental and institutional meetings helps

executives to be prepared to make any snap decisions that may be required without having to spend time studying spreadsheets or researching databases.

Participant D discussed being a member of a consortium of colleges that collaborate in a “concept-based” curriculum sharing group. This group meets annually to discuss state and national requirements for achieving nursing licenses. This collaboration currently involves a group of 17 schools within Texas with whom Participant D stated she felt she could reach out to if needing to discuss success rates or maybe when needing help when trying to make a curricular decision or policy implementation. She also stated this helped her because she “did not feel like she was alone” when needing to make difficult or complex decisions but had others in similar situations on whom she could rely for advice or input or maybe just to compare notes. This relates to this college’s interactions with their external environments when sharing departmental data with the consortium to ensure student success (Arsenault & Faerman, 2014; Kerrigan, 2015).

Participants were asked to describe how they interacted with other departments in their decision making, as well as how they might use data collected from other departments. Methods of collaboration included sharing information during staff meetings or via email blasts amongst departments and executives as well as interdepartmental meetings. Participant C discussed how collaboration at their college consisted of working issues out together or even establishing a committee to solve those issues, particularly if they affected other departments. Participant A discussed how having to do what was best for the college and data being the proof one may need to solve an issue or demonstrate, to stakeholders, attainment of goals which may range from participation in events to demographics to retention. Participant D stated they must collaborate with other departments to ensure academic courses required for their program are being offered

which coincide with degree plans and schedules. This collaboration is accomplished during weekly or monthly staff meetings as well as interdepartmental meetings.

Participant H discussed collaboration at their college included other vice presidents and executives which oversee the operation of such departments as instructional services, information technology business services, human resources and economic and workforce development. He also mentioned having a new culture of respect and support for everyone at their college and further added:

Based on this culture, even though we may disagree on approaches or solutions to challenges facing the institution and or issues cutting across departments/divisions, we are obligated to respect everyone's opinions and thoughts/perspectives on subjects. This approach allows for collaborative decision making, shared governance, and overall creates an environment fostering student success.

He further discussed having his collaborative leadership style which led him to be attuned to the leadership styles of his peers to "best facilitate collaborative success when programs or projects cross over divisional lines." Other participants also discussed collaboration which included data collected from other departments or organizations which might include; information from the Integrated Postsecondary Education Data System (IPEDS), Department of Research and Planning, as well as collaborating with administrators at other colleges sharing general information via remote databases.

Participant G discussed using data from "other departments to aid in forecasting." This forecasting might include whether there is enough staff available to man different events such as recruiting rallies or new student orientation, or enough faculty and staff to cover day and night classes at both local facilities serviced by this institution. This participant's college has

established two enrollment centers, one at each location, within the same town, to service student needs without having them travel back and forth from one side of town to the other to accomplish registration activities. These enrollment centers were launched after reviewing the viability of established procedures which led to the recent change, “to be good stewards of student’s and staff’s time and effort.”

Participant E relays, their collaboration methods include campus meetings, where recruitment data is shared as well as other information regarding the number of prospective students for upcoming semesters that college departments can expect to serve. Participant F shares that their collaboration depends on whether decisions they are making will affect other departments. This may consist of, adding or dropping courses to accommodate student requirements and schedules among different departments.

Although many of the decisions made at the executive level do not require datasheets, Participant H explains this decision-making process as shared governance among staff members and departments while establishing a culture of collaboration. All participants agreed that if their decisions affected other departments, choices would be better received if those others were involved in the problem-solving process giving everyone a shared sense of ownership.

Participant C relays most of their decision-making is, “determined by what affects students in a positive arena” and if the decision is out of this scope, then they collaborate with other departments and vice presidents, to whatever extent necessary. Participant C also mentioned collaborating with committees established within the college to deal with whatever issues may need their immediate or long-term attention if necessary. Participants also indicated they collaborated within their respective departments as well as with other department heads and

other colleges when seeking advice on different issues. Collaboration amongst colleagues and colleges contributed to these participant's institutional culture of success.

Cooperation. Review of the interview transcripts and online questionnaires revealed patterns of cooperation amongst colleagues proved to be a formula for success at all institutions. This cooperation included voluntary participation in activities such as student recruitment rallies, new student orientation, attendance at sporting or choir events in support of student and institutional success. Interviews further revealed cooperation and collaboration with other colleges in participant's local areas when reviewing industrial trends, and ensuring their students are well prepared for employment upon graduation. Also shared with me was that administrators consistently review comparison data with colleges of similar size and location (i.e., rural vs. urban) as well as reviewing data found in the community college almanac which was revealed by Participant B. All participants share a culture of cooperation within their colleges as well as cooperating with other colleges of similar size and locale to ensure success of an activity or program.

Communication. Open communication established through social trust and relationships built amongst colleagues facilitates the flow of communication and collaboration (Kerrigan, 2015). The vice presidents and other executives participating in this study relayed that they try to ensure they keep open communication with other departments particularly if any decisions being made affect other areas and departments. Participants mentioned open communication and teamwork being integral to successful collaboration amongst departments to ensure the appropriate program and course offerings are taking place. Participant E mentioned that during a meeting, they were able to request assistance from other departments to participate in their new student orientation when it was noted they needed last-minute help in particular areas. These

types of decisions may not seem to require data however, the pre-event planning allowed for communication amongst departments to discuss and implement any last-minute substitutions and schedule adjustments.

One institution opened a new facility to house a new program as well as restructuring another which was demonstrating growth and needing classroom expansions. Participants credit open lines of communication for much of the success of improvements made as a result of using data. One participant stated that student success rates could be verified through their retention and graduation rates which in most cases are compiled by the Institutional Effectiveness (I.E.) department and communicated to the organization and stakeholders.

I reviewed participant retention and graduation rates in documents, which were easily discovered on participant web sites. Participant D described their experiences during decision making as being democratic, in that, the input is sought from or communicated with other deans and directors, which usually occurs during the director's meetings or via email. Participant D employs these methods when needing to make an immediate decision or instituting when instituting new policies or procedures or must relay new state mandates. Communication is a continual process that crosses thematic lines as one must communicate their ideas, wants and needs when collaborating with colleagues, when cooperating with other departments or organizations and when sharing data to accomplish institutional goals.

Data sharing. Collectively all participants indicated they used data in a variety of ways and for a variety of methods, they used terms such as evidence, measures, reporting, funding, forecasting, tracking, comparison, and analysis to name a few. Participant G stated, "Let's share the data so we can do better at what we do." The information shared includes continuously measuring the status of any processes then coming up with a strategy for improvements, if

needed, then tweaking that process. Online response five revealed that throughout the analysis of shared data they ensured they had the “voice of the customer to know what my deliverable is.”

Decision making is a process in and of itself, requiring careful thought and consideration of options before coming to a meaningful conclusion. Participants D and H consider their decision making democratic, in that they usually seek input from other deans and directors or staff members and even other colleges. Participant H indicated this participatory method “creates a greater sense of ownership and commitment to the process and thus great job satisfaction and in the end, better student services.” Participants A, C, and E indicated their decision-making process depended upon what effect a decision might have on students. For example, if a decision is outside of the scope of their authority then they will seek an alliance with those others who may be affected by the decision. Interviews further revealed that participants relied on data being shared either among departments or with other organizations, outside of the college, to accomplish activities. Online responses also reveal participants use data to track persistence and retention for financial aid and other funding purposes. Participant A, in their interview, stated;

In my experience, anytime I can use data in making a decision the more comfortable I am with the decision and the easier it is to “sell” to my supervisor or my team. I make decisions every day at the operational level and may not have time to look at data for a split-second decision, but decisions on the functional, policy or procedural side are usually driven by data whenever possible.

When asked how they use data to make decisions that affect the daily operation online response two stated: “We are currently tracking our guided pathways implementation and see what our trends are there.” Online response three, revealed that;

If the survey is a continuous survey, ensure that the bulk of questions create a longitudinal data line; often add questions that are specific to a problem trying to solve. From the trend analysis of institutional research data and surveys administered, determine how to continuously improve or make adjustments for better student satisfaction. For example, surveys from housing trends based on dorm request forms over several years assist to determine which dorms need to be replaced/updated/closed, and so on.

How administrators at institutions use data to make changes varied from one to the other, for example, one looked for specific strategies that could be implemented that would allow a means to measure the success of improvements. Another reviewed state-reported data compared to institutions of similar size and location to see if they are being competitive. Another looks at program costs and whether there are enough students interested in taking classes or programs to sustain them. Another, through their online response, replied they would use their data analysis to restructure a department, change a process or evaluate short and long-term goals. Three of the participants have redesigned programs or processes based on the data they have gathered at their respective colleges. Adjustments to staffing based on data analysis ranged from reductions in staff to training development in areas requiring improvements.

Retention and graduation rates for the past five years were available for all participants, which simplified the verification of data. One participant mentioned returning counseling services to a face-to-face, college run model versus outsourcing to a private company, which was based on data this participant college analyzed. The data revealed having in-house counselors were more beneficial and a better return on investment for the college. One participant posited, change and improvements were a result of measurements beginning with baseline data, then tweaking the process and remeasuring to assess whether those changes have improved that

process. This participant further emphasized the continual process loop being borne from assessments and proposed improvements. To further answer the central research question, it would be helpful to know how participants: collected their data, and how they use data in their decision making. Answering these issues provided a greater insight as to how executives weigh their options in making decisions that may affect both, their institutions as well as the students they serve.

Data collection. When asked if their departments were required to collect or analyze data as part of their duties three participants responded yes, that they are required to collect data. Five participants replied no, that they were not “required” to collect data however they all confirmed that their departments or departments under their purview collected data or analyzed data available to them. Participant A replied that their department was not required to collect data, but it was a “best practice” to retrieve or collect data as proof that the services being provided are beneficial for students. Also, this data is useful in finding strengths and weaknesses for strategic planning purposes as well as areas needing improvement. Participant H shared, their college is required to collect data based on federal, state and local policies to track enrollment, attendance changes, federal student aid as well as reporting student population demographics. Further, this information is reported to the National Student Loan Data System which tracks student progress to determine Federal Student Loan eligibility. Data is also collected by participants to track student employment status upon graduation. This aids the colleges in determining which programs to continue or implement at their institution.

Surveys are the predominant method of data collection followed closely by information sharing during cabinet or interdepartmental meetings. Five participants indicated departmental personnel at their institutions distribute surveys using various methods such as: in their cafeteria,

dormitories, during sessions with groups of students, or at various other campus locations readily accessible to students. Two participants mentioned gathering testing data for analysis and another indicated their institution mined their data from their student information system which reflects enrollment patterns, program progress and completion, college demographics and other factors affecting how students are served. Further, Participant C mentioned their institution's methods of data collection as:

We will have "hear-all-tell-all" sessions where we can have students vent and talk to me open to discuss what they feel they need. As a group, we will talk about something I may need to implement if I can but if I can't I won't. If I need to, I will take any suggestions for the proper executive to get implemented. This will be like an open forum.

Participant D revealed they collect and analyze data mostly via test results and leveling by semester and making comparisons with national databanks. Further, test results are captured in a computer database accessible by departmental faculty members needing access to this information. Faculty members can review where students may be failing, doing well or reveal any weak areas which can not only help the students but is also helpful for faculty members, enabling them to assess and update the classroom curriculum.

Participant B, Vice President of an urban college, revealed their primary data source are reports provided by the various departments under their purview, reviewing results of data gathered by the departments. For example, if the department has set a goal of a 3% increase in their conversion rate of the applicant to a student then the data should reveal these results. There may also be information needing to be shared with the President, so they may be made aware of any trends affecting the college, so the analysis would be presented accordingly before being released for open review. This participant emphasized the primary need for data collection being

that of keeping not only the cabinet informed but also state agencies and other stakeholders which are accomplished through open communication and collaboration. Survey results and trend data are also available in reports posted to college websites for open review.

Two participant colleges store some of the data collected in spreadsheets, many times maintained at the department level. Six participants said the data they used for analysis in decision making was stored in databases. Of those six, four reported their databases were maintained by their Institutional Effectiveness departments, and one participant relayed their institution employs a data mining method. Participant H revealed their institution; “administers surveys at various points of the student life cycle to determine student satisfaction with services, classes, and other programs to identify areas for continuous improvement.” Further, the data they collect aids in determining why students may drop classes or completely end their college career, in turn, the college may develop interventions to support student success.

Some of the participants interviewed, based on their positions within the organization and college size, do not typically gather the data, rather they are presented with reports of the data and conduct their analysis of what the data may be indicating. While conducting this research, four participants, three of which were at urban colleges, did not directly deal with gathering or collecting and sorting data. For those participants not collecting their data, others within their departments review and sort the raw data, then the participants conduct an analysis to present their findings as evidence for a decision they have made or will be making based on their analysis. Participants, who do perform data collection, usually at smaller rural colleges on occasion, also seek the advice of other department heads, or collaborate with other colleges of similar size and program offerings as mentioned by participants B and D. Another example provided by participant D was the college’s investment in a concept-based curriculum

partnership with other colleges; through this partnership, they can compare data with colleges of similar size upon which to base a decision.

Data use. Participant G describes their use of data as seeming “kind of archaic” in that assessment data is that which is transmitted, usually verbally, from one department to another, after making visual or personal observations rather than via a spreadsheet or database. The information, or observation, reveals whether there is suitable staff available at required locations and times for events such as night classes versus day classes, one physical location versus another, registration rally versus preview day, etc. Online response four mentioned using data for predictive analytics regularly.

Participant F revealed their daily use of data, concerning decision making, primarily pertained to the approval of spending for student activities as well as class adds and drops. Participant E stated that they do collect data, however, the analysis takes place at the main campus location. The data they collect consists of prospective students coming to campus for entrance exams, and their testing results. This information is transmitted to the state headquarters campus for analysis. However, when it comes to orientation events, they do receive and review student data such as: how many students to expect at the event as well as their program of study so the institution can be prepared with appropriate staff members. This preparatory data is shared at interdepartmental, as well as informal, meetings where recruitment, registration, and testing information are shared. Many other activities are centralized at regional locations with local campuses scheduling and conducting those events not requiring wider dissemination or participation.

Participant H shared, “data or information is key to a sound and effective decision-making process when [in] service as Vice President.” This participant also informed me that they

review enrollment data, much like the other participants, to make staffing, course offering, budgetary, and other operational efficiency decisions. They also emphasized that “data collection and analysis of information is also necessary to meet reporting requirements for state, federal, and local stakeholders and accreditors.”

Forecasting staff, faculty, and course offering requirements were areas all participants use data in making decisions. This data is obtained from various sources such as the end of course surveys, event attendance, and activity participation. All participants indicated communication and collaboration during cabinet and departmental meetings was a primary indicator of how resources should be distributed or shared to best serve students. A review of meeting agendas, minutes and notes from one participant college’s Recruitment and Retention Committee meeting revealed a sentiment of cooperation amongst departments which served as an aid in forecasting staff and faculty requirements for future semesters. Discussions centered around recruitment efforts conducted by athletic departments allowed others to provide input and suggestions not previously considered by these areas but are in practice by others. Implementation of a centralized database to track potential students, in practice by some, was introduced to those not already using the system. Discussion of this topic revealed recruitment efforts were currently being tracked not only by athletic departments but also by the recruiting departments at the three separate campus locations. Having a central repository would not only prove to be cost-effective but also allow administrators to have access to all recruiting and retention data at a moment’s notice.

A review of the responses to the online questionnaire discovered themes very similar to those of the face-to-face interviews but did reveal a few themes not brought up before. For example, two participants said they used data to show outcomes which allows them to

“understand how a process is running to see gaps and successes.” Participant’s experiences also showed that while all mostly collected quantitative data, more than half of the participants also collected qualitative data when it came to student satisfaction, student life activities, and other functional area participation. Half of the participants stored much of their student services data on spreadsheets while the other half employed the use of databases maintained by either their departments or shared by their institutional research departments.

When it came to using data to make decisions that affect daily operations three mentioned staffing needs, one mentioned funding, two discussed trends and one stated they did “not need data to make decisions that affect the daily operation.” Although some of the participants may have felt they did not need or use data to make decisions that affect the everyday operation of the college, this study did find that most of the decisions executives were making involved at least having an innate knowledge of an institution’s contextual data.

Administrators make changes to processes, programs, staff and faculty based on data gathered from various sources. Participants indicated their institutions make changes based on trend data discovered when analyzing survey responses and database information. Only one participant revealed change, at their location, was “very difficult even when the data suggests it is needed.” Another participant indicated they were not privy, at the director level, to information regarding whether changes were being made as a result of trend data analysis. A new facility to encompass two new industrial technology programs were built, however, this director indicated they were unsure whether this was a result of trend data or at the request of the college’s local stakeholders and industry leaders.

A participant at this same location holding a higher executive level position indicated during their interview, the addition of the new facility to house the new programs was the result

of a request from the local community and industry leaders to support an increased need for workers in industrial areas requiring skills produced by enrollment in the new programs. Participant G further revealed the executives at their institution look at program vitality and placement to determine whether changes are needed. Administrators interviewed for this study also look at the return on investment, program costs versus the number of graduates produced and job placement. Other data these administrators review to determine whether program changes are warranted include: “a program that is fully online and costs very little to maintain and it’s a robust grouping of graduates and they’re all getting placed because there’s a big need out there.” Enrollment and graduation rates were verified using data reports posted on institution websites, placement rates are available via links to state-reported data.

Summary

Participant interviews, online questionnaires, and online document reviews revealed four common themes of data used in decision making among college executives and those themes were collaboration, cooperation, communication, and data sharing. Participant interactions also revealed that participant’s general practices and attitudes toward data use in decision making were positive encounters. They also mentioned that experience helps them make decisions when data or spreadsheets are not immediately available or possible, some also relied on gut instinct to help make decisions. However, they mostly relied on collaboration and a reliance on their organizational values to achieve positive results when dealing with issues. Response six of the online questionnaires revealed that executives need not discount their experience when analyzing data to make decisions as stated in their online response:

Experience is extremely helpful, I found early in my career I did not trust my gut, but now I do. But that doesn’t mean I am not going to look at all the facts first, gather any

information which includes speaking to individuals who are in the trenches currently doing the job and taking care of business with our students. Also, I know that every decision that I make will affect other departments that I may not even supervise, so I like to include other divisions in the problem-solving process.

All participants mentioned that when a particular situation requires them to have more data, they check trends, check resources and make a decision if it is within their area of responsibility. If not, participants also agreed that if their decision involved other departments, they were sure to collaborate with others, gather any necessary additional information then make a decision they could be assured was an informed one. Much of the data used in their analyses were gathered via surveys. Distribution of surveys also varied from graduation surveys to end of course surveys to random surveys throughout the semester.

All participants also agreed that a significant amount of their collaboration and communication occurred during staff meetings. Data gleaned from these meetings was used for issues including student success outcomes, program improvements, process improvements, as well as for evidence presented to stakeholders. Participants also relayed that in most cases they or their departments were not required to collect data but did so to gauge their department's strengths and weaknesses to provide better or continued quality services to students. They considered process improvement a best practice to be incorporated throughout their colleges. Data analyzed by these college executives were used to make functional decisions such as administrative functions including financial tasks as well as libraries. Data analytics also leads to making operational decisions that affect course schedules, as well as faculty and staff assignments. Executives who collaborated with others not only within their institutions but with other colleges were more likely to share data and their analyses amongst their colleagues to

ensure student success. Informed decisions are made and supported by data collected and shared among other college executives.

Chapter 5: Discussion and Conclusion

Introduction

The purpose of this qualitative phenomenological study was to explore the experiences of college executives in daily decision-making at the executive level at institutions of higher education. Also explored in this study were the experiences of college executives in using data for decision-making and identified their data collection methods, purposes for collecting data, and the use of data points in daily decision-making. The general literature on the subject of data-driven decision-making focused mostly on K–12 educational institutions and is inconclusive in the context of a college setting which led to my conducting this study in the 2-year college context (Callery, 2012; Kerrigan, 2014; Leimer, 2011). Narrative analysis (Souto-Manning, 2014) was used to code the data which was collected through semistructured face-to-face interviews, questionnaires, and archival and document reviews. This chapter consists of a discussion of the research findings. I will draw on themes emerging from the study to discuss and summarize the findings as well as their relation to the literature.

This chapter also includes information about the study's limitations, implications, and recommendations for further research. Eight college executives participated in this phenomenological study and shared their lived experiences using data in their decision making. Data analysis revealed collaboration and communication as prevalent themes in data usage which provides evidence for decisions made to college stakeholders. Rubin and Rubin (2005) theorized that naturalist researchers, based on their listening, observing and understanding skills, become the data gathering instrument. Participants in this study shared their experiences of data used in daily decision-making while in their executive roles at colleges within the SACSCOC accreditation region.

Responses from questionnaires, semistructured face-to-face interviews, and a review of documents led me to draw conclusions based on the themes discovered during this study. The themes of collaboration, cooperation, communication and data sharing all represent the decisions made by executives that are grounded in their reliance on institutional surveys, as well as discussions with colleagues and focus groups. This chapter provides a summary of the analysis of sources discovered for this study, which is significant because it highlights the need for executives to not only collect and analyze data for evidentiary purposes but historical needs in determining trends as well as for strategic planning.

Summary of the Results

Semistructured interviews with participants and analysis of data available on participant websites revealed that decisions being made by college executives may fall into one of three categories: operational, functional or human element. Data analysis revealed that even though college executives may state that “they” collect data, this statement may be misleading in that someone in their department may be conducting the actual data collection or gathering, and the executive is performing analysis and interpretation of the data. Participants discussed how at the executive level, they no longer conduct any actual data gathering, individuals under their purview perform these duties which may consist of distributing, gathering and sorting surveys, designing databases or spreadsheets to track data. Participants further stated they needed results yielded by data gathered by their departments, and in some cases from other departments, to make informed decisions.

Having information (data) about student environments, their experiences during the earliest encounters with the college from the application process to testing, registration, and orientation may be used as predictors of student persistence and success as evidenced by the data

available on the college's websites. Themes of cooperation, communication, collaboration, and data sharing steered the direction of this study. Four of the individuals interviewed were not part of the original targeted study group giving me a slightly broader view of how college executives use data in their decision-making process.

Through this study, I sought to answer the following question:

- What are the experiences of community college vice presidents in using data for decision-making purposes?

Participants described their experiences in decision making at the executive level and in using data in decision making at 2-year colleges as collaborative, not only with colleagues at their institutions but with other institutions as well. The topics that emerged from participant responses led to the grouping of decision-making behaviors into three categories: operational, functional and human element. Topics grouped under the operational category were a result of discussions in dealing with issues such as an institution's faculty and course scheduling as well as the resources needed for the successful operation of the college, including student tracking. Executives evaluate data to determine an institution's effectiveness and further use this data for their strategic planning as well as for evidence of return on investment to demonstrate to stakeholders.

Topics grouped under the functional category focus on the day-to-day functions of a college such as funding, student housing, and other services not directly related to classes being offered. Functional decisions require data gathered or tracked over time to determine trends that allow forecasting where the institution needs to be performing on a particular service (as an example) or to inform strategy development on how to best get there. The third category involves

issues surrounding the Human Element. Topics such as communication or interactions in and among the human elements at colleges are the predominant make-up of this category.

All participants mentioned issues in this category did not require much, if any, data when making decisions. However, two participants mentioned experience and collaboration is helpful when making decisions involving the human element, particularly during conflict resolution. Issues involving student participation or staff and faculty requirements, on occasion require measuring to provide evidence of participation to those who may require it as well as for future planning purposes. These categories and topics demonstrate executives having positive experiences with data in their decision making, as well as the ability to make well-informed decisions when dealing with issues that may not require data. An executive will be better informed to make decisions based on the data they may have before them or have previously reviewed, may be better able to resolve conflicts and make snap decisions, and these decisions will be supported by their higher authorities and stakeholders.

Discussion of the Results

The purpose of this study was to explore the experiences of college executives in making data-driven decisions. The CVF produced the principal themes used to code the data collected throughout the study. Semistructured interviews, document reviews, and an online questionnaire were the methods that triangulated the data gathered for this study. Although some may think operational and functional are similar words, the participants used these to describe different areas within the college. When participants were discussing issues considered to be at the operational level these involved issues directly dealing with the operation of the college such as classroom use, class schedules, faculty needs, and similar issues. When participants were discussing issues considered to be at a functional level, they were talking about areas such as

registration services, financial services, cafeteria services, and other what may be considered “back office” services. Some may consider that a fine line exists between those areas considered to be operational or functional and many of the issues (see Table 7) participants are involved with effect more than one category.

Table 7

Examples of Decision Issues by Category

Operational	Functional	Human Element
Program offerings	Registration services	Title IX (Sexual harassment, etc.)
Class schedules	Financial services	Personnel issues (hiring/firing, safety, etc.)
Classroom use	Cafeteria services	Student interactions and safety
Faculty needs		Student Conflicts
Library services		
Facilities and maintenance		
Support staff, that is, IT, janitorial services, building maintenance, safety personnel		

Operational. Decisions driven by data are easier to “sell” to supervisors and stakeholders (Participant A, interview, 2018). Information such as, student success, and student interests, drive faculty needs which are discovered upon analysis of assessment or survey data which is gathered before, during and after each semester as revealed by participants during interviews conducted for this study. Discovery materials such as reports of Annual Credentials Awarded, Student Completion/Graduation rates, Student Achievement Data, College Online Resume for Prospective Students, Parents and the Public, located on participant websites support the efficacy of this study’s findings. Much of the data gathered by administrators is used to confirm or test an organization’s effectiveness measured by the number of students in attendance as well as the success of those students which can be confirmed by the data located on the college’s website (Leimer, 2011).

Data is only useful if it is used, results must be analyzed and interpreted to determine whether the system in place is working (Cramer, Little, and McHatton, 2018). Most of participant websites had five years of student success data with two of those website reviews yielding student success data for past 10 years. Participants revealed that they analyze and use this data as evidence of student completion and graduation rates for either resource availability as well as staffing needs. Two participants discussed opening new facilities to better serve their ever-expanding constituencies based on analyses of data available to them. All participants mentioned budgets being tied to the results of the data that was gathered and analyzed. Participants further revealed that these analyses were used as proof or evidence as required by their stakeholders, supervisors, and funding sources.

Participants also discussed state and national reporting requirements which included submitting reports to IPEDS as well as Title IX safety reporting requirements. Many of these reports, such as graduation rate and Clery Act reports, can also be found on college websites making it easier for parents of current and potential students to locate so they can make informed decisions, such as which college their child should attend based on price, programs available, safety record, etc. College executives use this same information to make decisions about what programs to continue funding, whether cafeteria hours and staffing require adjusting to meet student needs, or whether there are safety and security concerns that require further attention or training. For executives to make decisions that could answer these concerns and issues would require for data to be readily available, analyzed and discussed among those areas affected, and a mutually agreeable conclusion being met.

In his study concerning assessment or survey data, Campbell (2014) discovered that data was only used if it fits a decision being made or to shape policy. Participants interviewed for this

study describe their experiences with survey data as being used to: conduct predictive analytics, demonstrate outcomes, inform decision making for program improvement, gap assessments, and to measure student success. Collaboration among departments aid in the free exchange of information giving executives the ability to make informed decisions based on the data available to them. Surveys are used by each institution to determine trends that are in turn used as justification for continuous improvement or to make adjustments for student satisfaction.

A document review of training meeting notes revealed that curriculum changes were made by the department conducting the faculty training sessions. Operational changes being made in this department also included conversion to a concept-based nursing curriculum in collaboration with other community colleges in the state of Texas. This participant further revealed during her one-on-one interview that other states were showing an interest in the use of the curriculum as well as collaboration with the curriculum group. Users of this curriculum meet twice annually to share whether any updates or changes are needed to keep the curriculum relevant to the industry. A review of this college's persistence data revealed the department's success rates could be attributed to the implementation and use of this curricular methodology. Further study of this phenomenon would be required to confirm whether the use of a concept-based curriculum is directly related to the success of students participating in this method of instruction.

Participants disclosed that they collaborate with other departments during staff meetings to review trend data which might be used to determine whether operational changes need to be made or, what operational procedures are working at their institution as well as at other institutions. Participants also revealed that they identify trends and areas of concern to make needed changes or updates to determine what might be the best fit for the student population.

Relationships are being established and refined amongst departmental personnel through interactions with each other during staff meetings. These collaborations may also yield trust and long-term communication amongst the executives within the institution (Kerrigan, 2015).

Departments conducting surveys are looking at different types of information from their constituents, however, it is often also helpful to have access to the data other departments are gathering, hence the importance of sharing data amongst departments. For example, it would be helpful for the English or Math departments to know how many nursing, IT, Graphic Design or students in other departments are going to need these or other academic classes to complete their degrees. This would allow departments to plan for any updates to faculty needs or classroom use as well as planning for any support staff that might be needed. Support staff might include security officers, building maintenance, janitorial services, information technology support, library services and other such areas necessary for the successful operation of a college but not directly dealing with classroom activities. Executives are better able to make informed decisions for the successful operation of the college when having access to data being captured by all departments.

Functional. Data used to make decisions in functional areas may drive college or departmental policies and procedures such as establishing updated methods of gathering potential student information, updated application processing, updated registration methods. Survey and inter-collegiate data collected and analyzed may provide the evidence needed for an institution's funding and forecasting purposes. Functional areas require many support staff members and, in some cases, may directly affect students particularly in the area of attendance costs and financial aid. The literature examined afforded a review of the significance staff training played to properly analyze and incorporate this data into their everyday practices

(Mandinach, 2012). The data itself is of no use to educators without the proper training in capturing and analysis as well as how to incorporate what the data is telling them into their institution's practices. For educators to be able to use data effectively in their everyday practices and decision making, they must acquire skills and knowledge of data analysis literacy (Mandinach, 2012).

Participants of this study shared that data results demonstrate their institution's success factors which may also lead to additional funding for either current or new programs or even upgrades to older facilities and equipment. Also, data collected may reveal budget shortfalls as well as dropout rates and possible reasons for students leaving college early. Sharing this data among departments may lead to a cooperative environment of continuous improvement and student early alert monitoring to be able to provide appropriate interventions. These interventions may include areas other than just providing tutors or additional classroom or lab time but may require: additional library hours, additional housing to provide students adequate study areas as well as safe and comfortable living arrangements.

Also, since most community colleges are commuter colleges or may have additional facilities that do not include housing facilities, other issues that may cause executives concern may include whether the institution is providing adequate parking, safe and comfortable work areas for its constituency. More and more these days the safety of one's day-to-day work environment is also becoming an issue at the forefront of everyone's mind. It is the job of an institution's executives to ensure all those transiting their facilities feel safe and one way of doing that is by examining, analyzing, and making any necessary adjustments based on the safety data before them. One participant shared that their institution was going to be conducting climate surveys in upcoming semesters which could reveal how satisfied students are with their current

college environments. Checking student environment satisfaction requires collaboration among departments which would include cooperation amongst those executives in charge of housing, cafeteria, gymnasium, library, academic facilities and any other complex these students may transit such as the business office.

Participants revealed their need to continuously conduct student satisfaction surveys, some in the form of Noel-Levitz Student Satisfaction inventories. Survey data reveal how well the college is doing in delivering its services to its customers and for its stakeholders. Analysis of the survey data gives executives the evidence they may need to substantiate funding for programs or services. One participant pointed out that since the institution was a community college the survey data being collected tended to change quite often because most students usually were there for only two years or less. Further, they informed me that because students are at the community college for such a short time, trends needed to be assessed more often, this was confirmed by participants who responded via the online questionnaire.

Economic impact studies, analyses of retention rates, graduation rates, and Community College Survey of Student Engagement (CCSSE), over the past two years were conducted by participant colleges driving changes to processes and policies. In addition to procedural changes results of satisfaction surveys also drove changes and updates to facilities. Three participant colleges had new buildings constructed as well as adding new and refurbishing old parking areas to support their expanding communities. On the other side of the coin, one participant, in their online response, did reveal that change, at their institution was a difficult concept to grasp even though the data being collected suggested that changes needed to be implemented. Participant E shared that procedural changes had been implemented to their new student orientation processes making it simpler for everyone involved especially for the students. These changes came about

due to survey results and analysis of data gathered from the last three to four new student orientations. Functional, operational and human element issues sometimes affect performance across categorical lines in that it takes a trained person, for example, a faculty member (human element) to schedule and conduct a class (operational area) and this person will also need to be subsidized (functional area) for their time and effort.

Human element. Participants mentioned not needing extensive data points when dealing with issues involving the human element such as student conflicts, however, if there are numerous encounters with the same or similar issues involving student conflicts, then this may require keeping account of these clashes to provide evidence when in pursuit of long-term resolutions. Participant responses revealed communication and collaboration as prevalent themes when issues involved the human element at their institutions. Sadly, these issues often involved complaints such as Title IX discrimination or sexual harassment complaints. Other themes discovered involving the human element at a college included departmental needs and one's responsibilities. Needs ranged from staff and faculty requirements to meet class schedules and student services through classroom, dormitory, library, gymnasium or other facility needs. While on the surface it may seem that many of these issues do not require much if any data it would be helpful to have some background experience or knowledge of what resources are available to the executives who oversee these areas of responsibility, hence issues crossing categorical lines.

One participant, in their online response, described some decisions executives make that may not require extensive data as being "ocular" or a decision that can be made based on what one sees or observes rather than needing to analyze a data sheet. Decisions of this type might include whether expansion to parking areas are needed because there are many more cars on campus than there are parking spaces, or continuously receiving requests for a different housing

assignment from a student because they are not happy with their current housing assignment. These types of decisions might not require vast amounts of data but can be verifiable by what is seen on campus by the executive making the decision. Although on the outside this decision seems to involve the Human Element, as the executive may be dealing with continuous complaints about the lack of parking the decision may be a functional one as this affects whether the institution has the budget or even space on campus to make expansions and improvements to parking areas.

Another suggestion, made in one of the online responses, might be a rideshare program. Another example provided by a participant in their online response might be an issue observable by an executive which might take pure gut instinct to detect as well as resolve. For example, when particular students are continually requesting a change to their housing assignment because their current accommodations are not desirable for one reason or another. The executive handling this issue gets a gut feeling that something is wrong so they may hand this issue over to a counselor to speak to the student or students to see if there are possibly some underlying issues going on beyond the executive's capacity. Participants shared that these types of decisions are often broad and many times require executives to be adept at being able to sense when a student may be experiencing problems as they develop, and before they get out of hand.

Summary. Higher education executives typically compartmentalize decisions they make or need to make for justification to their superiors as well as to stakeholders no matter how trivial the decision may seem. The usual compartments for executive decisions are operational, functional or services which all may involve the human element in some form or fashion. Another reason these decisions might be compartmentalized is for budgeting and resource allocation purposes giving executives a better idea of how or where collaborations should be

enhanced or developed, as well as where most funds are being disbursed or possibly be redirected.

Discussion of the Results in Relation to the Literature

This phenomenological study focused on the experiences of executives at higher education institutions in data-driven decision making. The CVF conceptual framework guided two areas of interest: decision making at the executive level and incorporating data-into or when making decisions affecting the institution. Decision making at any level requires consideration of options as well as consequences of the final decision. Decisions made at an executive level may have a direct effect on an organization's overall effectiveness. The literature supported participant experiences which was that organizational effectiveness is sustained through analytic decision-making, and how they apply their analyses to make decisions and achieve results. Interactions, either through face-to-face or telephonic interviews, with these college executives, also gave me some insight into the value these organizations place on their social capital. Kerrigan (2015), posits that social capital can be defined by the benefit derived from the social relationships one has established.

Decision making. Participants in this study described their decision-making process as being similar in the steps being taken, however, it is a process with a variety of styles in their execution leading to a conclusion favorable for all parties. All eight participants described their decision-making process as collaborative and one went on to further describe it as democratic. These executives work within their department's building consensus in dealing with the many decisions they may face. Decisions ranging from upgrading curricular methods to working out classroom and course scheduling issues to resolving student conflicts. The participants also discussed decisions that may not require having data sheets as being those decisions involving

the human element. These include such issues as student conflicts or Title IX compliance, which deals with issues of discrimination or sexual harassment, required for Federal Student Aid.

Although these issues may not initially require datasheets for resolution, these issues may need to be documented and tracked to determine if there are problems that may become a trend for someone to be prepared to deal with in the future.

Executives at higher education institutions are faced with many decisions based on their positions within the organization's hierarchy. Participants in this study revealed during their interviews that the goal of their decisions is not only geared at solving an issue but also directed at continually improving their organization's effectiveness. Arsenault and Faerman (2014) have argued that the organizational culture framework is the most extensively used application of the CVF. These researchers also discussed three additional applications of the CVF pertinent to this study those being: organizational decision-making criteria, managerial communication, and a framework of management ethics (Petrick & Quinn, 1997, as cited in Arsenault & Faerman, 2014).

During this study I discovered that the participants were unknowingly applying the CVF in their decision-making in that, choices are being made which may reflect personal or organizational values, but these executives are not thinking in terms of "competing values." They may not be aware of the trade-offs being made when one choice is made over another or what value is being avoided when its conceptual opposite is chosen (Arsenault & Faerman, 2014). Participants mentioned that oftentimes they must take care to not allow their values and feelings to get in the way of making good and ethical decisions when confronted with issues, particularly those such as discrimination and harassment. Participants also mentioned relying on their experience and gut instincts when making snap decisions being helpful in many cases, we

humans make sense of complexity through the interpretation of our internal data, that is, our feelings and internal cues (Arsenault & Faerman, 2014).

Data-driven decision-making. Participants in this empirical study discussed the need for data, when available, to substantiate decisions being made as well as for evidence to provide stakeholders. During this study, I determined that the only participant performing data gathering duties for analysis was the participant at the director level of a rural community college. The data gathering consisted of administering admissions tests as well as distributing and gathering survey data after different events such as new student orientation or other events coordinated and monitored by this director. All other participants in this study mentioned performing analysis of data gathered by members of their respective departments or data shared with them by other departments.

Decisions made by the participants included: routine course adds or drops from student schedules, approval of spending for student activities, course or program cancellations and scheduling various other routine or special events such as registration rallies or new student orientations. These decisions are supported by the data being analyzed by the participants which are derived from a variety of sources such as student registration information, surveys distributed at the end of each semester, student completion data, student satisfaction data, other pertinent data shared amongst departments, institutional effectiveness data, as well as other colleges with similar student offerings and location size, that is, rural versus urban. Data collected is also used to provide justification for staffing and funding requirements as well as in forecasting.

Forecasting could include predicting whether there are enough faculty and staff available to support the day-to-day operation from one semester to the next to whether a discontinued program is revived. Two participants mentioned readdressing counseling programs that were

being outsourced and who's colleges are returning to in-house counselors as a result of their program data analysis. These types of decisions are made based on exhaustive data gathering and analysis as described by the participants.

Much of the data gathering and analysis is accomplished by departmental personnel consists of distributing and gathering surveys, then entering response data into spreadsheets or databases either housed on campus or cloud servers where the data is compiled. Reports and charts are created from the compiled data for presentation to stakeholders and supporters which includes posting to college websites. Several colleges are going to a more sophisticated form of data compilation consisting of various methods of data mining and database support proving to be a much more cost-effective and easier method of maintaining and accessing data. The forms of data-driven decision-making being accomplished at participant colleges require extensive reliance on the organization's social capital, that is, relationships established amongst its departments and personnel, particularly those with the technical skills to track and manage data (Kerrigan, 2015).

Social capital. The organizational resources within an institution that are neither physical nor financial are described as those social relationships producing desirable behaviors which may also lead to new knowledge (Kerrigan, 2015). The resources shared among members of a group can contribute to trust and communication in the relationships established because of membership in these groups (Kerrigan, 2015). Participants discussed collaboration amongst departments as well as with colleges of similar size and program offerings helping assist students to succeed in their college and career goals. One participant mentioned the value of collaborating and sharing information among departments, based on the social relationships established among colleagues, being helpful to attaining institutional goals.

When it came to data collection and sharing amongst departments, one participant referred to their system of data collection, used to make decisions on a day-to-day basis, as “archaic.” He mentioned this as being so when the decisions he was making needed to be immediate and information with which he was making these decisions was a snap decision being relayed immediately by word of mouth. These decisions usually involved staffing issues during events such as registration rallies or recruiting events requiring several workers, some of which might consist of volunteers. These decisions require collaboration with and amongst departments where social relationships are sometimes helpful when seeking assistance voluntarily. Long-term staffing issues require other methods of hiring solution including personnel interviews and other pre-established techniques.

Participants discussed how some of the data available to them and shared with them is used to determine the operation of a building, as well as how many staff members are needed for the successful operation of facilities at any given time. One participant mentioned the fiscal responsibility for the use and maintenance of resources these executives have to their constituents in being good stewards of these resources. Sharing resources amongst departments requires departments to establish and maintain a sharing relationship. One participant mentioned having previously worked in a college environment in the private sector where information sharing was not as open as in the public sector where he was currently employed. I find it important to note that Locke & Guglielmino (2006) posit that subcultures exist within colleges which may influence change and trust, further, these subcultures may influence the establishment of relationships within the institution (as cited in Kerrigan, 2015). These subcultures exist within student as well as faculty and staff populations, although this phenomenon was not examined for

purposes of this study subcultures may extend trust and communication across social relationships.

Participants in this study described sharing data analysis results during staff meetings as being one of the most common methods of collaboration. Staff meetings are the place where college executives come together to share the analytical findings of the data captured by their respective departments. Not all departments are capturing the same data, however, the data they are capturing is necessary to share among other departments for these executives to be able to make informed decisions. Sharing information, approaches or solutions creates an environment that fosters student success and gives way to collaborative decision making and shared governance (Rabovsky, 2012).

Participants also discussed data collaboration aiding in forecasting areas such as staffing needs, recruiting targets, and facility needs. Empirical evidence examined during this study confirms that open communication and social trust among faculty and staff as well as data shared amongst institutions of similar size and geographical make-up are great contributors toward student success and attainment of an institution's goals. Having evidence, in the form of data, which in the case of this study is available for verification on participant websites, to support one's decisions is going to be a decision in which one can have full confidence. Executives that rely on evidence, as well as relationships, seem to be not only making well-informed decisions but also assuring buy-in from those who may benefit from the decision whether it is another department, college, or stakeholder.

Competing values framework. Organizational effectiveness has been the topic of numerous studies, two studies conducted by Quinn and Rohrbaugh (1981, 1983) examined multidimensional scaling as defined by Kruskal & Wish (1978) as “a statistical technique that

generates (cognitive) maps from individual ratings of similarity/dissimilarity of items on a list of specific concepts/constructs” (as cited in Arsenault & Faerman, 2015, p. 148). Figure 1 shows an example of one area of “value dimensions” within the CVF directed at increasing organizational effectiveness (Arsenault & Faerman, 2015). Arsenault & Faerman, (2015) further discovered that the dimensions created by the multidimensional scaling give administrators a method of differentiation of organizational effectiveness criteria based on values, the importance of stability and control versus adaptability and flexibility, the importance of focusing on functions within the organization versus focusing on how the organization relates to its environment, hence the model’s name, competing values framework.

When applied to this study, participants mentioned the need for adaptability and flexibility in their day-to-day dealings with students and stakeholders. These participants also mentioned the need for updating overall environments to ensure students, as well as faculty and staff, are provided with up to date living and workspaces as well as technology-based on the latest trends. Participants discussed analyzing an average of three to five years of historical data to determine the direction of any updates or changes being considered.

Participants also discussed the fact that they were not “required” to collect or analyze data as part of their daily duties, however, it was a best practice to obtain and maintain records of whether consumers feel the services a department is providing are found to be beneficial. These records could further serve as proof a department head might be able to use to provide stakeholders substantiation for further funding or conversely whether a service or program needs discontinuation. Surveys were the primary data collection method of which two participants mentioned using spreadsheets and six participant colleges using databases to complete data compilation and sorting.

Limitations

During this study, I encountered several limitations which led to my altering the original target sample of the study. Originally, I was targeting Vice Presidents of Student Affairs (VPSA) within the SACSCOC area of accreditation for this study. The focus of my study was on these executives' experiences with data-driven decision making. Since at most colleges the primary duties and responsibilities for these vice presidents typically includes but is not limited to: the planning and direction of all programs dealing with student leadership and engagement, residence life and housing, as well as recruitment and retention to name a few, the executives that did participate included those of similar or intersecting duties as the original target (Shuh, et al., 2017). I focused on the Student Affairs area of responsibility because I felt these executives might have broader interactions with students, and data about the students both in and out of the classroom. I focused on colleges within the SACSCOC area as this accreditation agency was one with which I had familiarity. The area proving to be the biggest limitation was finding enough volunteers in the appropriate target sample to participate in my study.

Most colleges have only one VPSA, and possibly several assistant vice presidents or directors of Student Affairs, this study consisted of a multi-site purposeful and snowball sampling of participants for data collection. Many colleges have executives that perform the same or similar duties as the VPSA but may use other title designations. For this study, in addition to five VPSAs participating, three of the participants consisted of one Enrollment Management executive, one Dean and one Director whom all perform similar duties as that of the VPSA when it comes to students and their welfare. College locations of particular interest were within the state of Texas, based on my home location, making travel to nearby communities

more convenient when conducting face-to-face interviews. Living in a rural area and working at a rural college made travel to other colleges for interviews a limitation.

Through the course of my research, I discovered that demands are greater on the VPs of smaller rural colleges than on those at larger institutions. This can probably be attributed to there being fewer staff members or assistants available to VPs at smaller colleges, so the VP ends up needing to take on more tasks to ensure their student populations are being served. One VP who had worked at a larger institution and then moved to a smaller, rural institution even mentioned his duties shifted greater than what he had experienced at the larger institution. He mentioned he felt that at the smaller institution he had to focus more on student's entertainment and safety rather than on academics or issues more closely related to their collegial responsibilities.

In conclusion, limitations during data collection primarily revolved around the participants and the inability to convince individuals in the target sample to agree to participate. In addition to not being able to get enough participants initially and having to cast a wider net, I also discovered that several of the participant colleges used different titles for the same or similar executive positions. My rural location was another limitation of being able to conduct face-to-face interviews rather than communicating with participants via email or telephone interviews. I also determined that the online questionnaire may have consisted of a few too many questions for participants to answer which may have contributed to delays in returning their responses. The open-ended nature of the question required the participants to take time to give careful thought and contemplation of how they may want to formulate their responses.

Implications of the Results for Practice, Policy, and Theory

Four research-based theories are driving the results of this study which include: data-driven decision making, data analytics, social capital theory, and the competing values theory.

Based on the literature review for this study, data analytics has been widely used in business for some time and is being incorporated into the daily data-driven decision-making at higher education institutions (Dziuban, et al. 2012). Participants have revealed that to make short as well as long term changes these must be sustained by evidence to gain support from their stakeholders and funding sources. Participants further revealed that sharing data amongst departments was an important part of making decisions as having a diverse collection of information allows executives to make well-informed judgments. Establishing well-developed working relationships amongst departments enhances an institution's social capital's productivity when making data-driven decisions. These relationships lead to highlighting competing values within the institution demonstrating how departments work together focusing on functions within the organization versus focusing on how the organization relates to its environment (Arsenault & Faerman, 2014; Kerrigan, 2015).

Accountability and evidence are topics that continue to pervade higher education program subsidy with performance-based funding being tied to state budgets and continuance of such require public support and positive impact of service delivery (Rabovsky, 2012). Further, proponents have argued that imposing sanctions when institutions fail to produce desired results would be easier for political leaders and the general public to support based on the evidence provided by the institution (Rabovsky, 2012). Conversely, critics claim that tying state and federal budgets to performance may negatively impact service delivery and possibly a decrease in public support for funding (Picciano, 2012; Rabovsky, 2012). Two participants discussed tracking students from application to graduation and placement into the local industry was a statistic new to their data following and sharing with stakeholders. They mentioned that performance funding was an issue difficult to maintain because this requires contact with the

students beyond graduation and many times they lost track of these graduates. The evolution of big data and analytics has made the administration of higher education institutions open to public scrutiny with the possibility of the imposition of more stringent state and federal accountability policies particularly when it comes to performance funding (Rabovsky, 2012; Ryder & Kimball, 2015). Relationships within the organization lead to its effectiveness in providing services to students and graduates to local, state and national industries (Arsenault & Faerman, 2014; Kerrigan, 2015).

Data-driven decision making. College executives interviewed for this study hold that decisions backed by data are an easier “sell” to stakeholders making it more comfortable for them to accept. There also seems to be a need for transparency when it comes to data availability, in that the general public is more comfortable with a college that has data available for review online (Hora et al., 2014). Data, easily available online for those seeking information about a particular college, can range from graduation rates to program availability, as well as costs for attendance which is of particular interest to parents and student sponsors. The implications of the results of this study deal with the necessity of having data readily available. For student affairs executives this might mean having data about housing occupancy, registration rates, attendance rates, availability of cafeteria facilities, sports activities and other social and spiritual activities to ensure student overall wellness.

Analytics. The literature reviewed, as well as the participants in this study all, agree that it is not only helpful to disburse surveys and collect data but, it is equally if not more important to analyze and do something with the data. Data allow departments to open a dialogue about how to solve issues and bring strategic plans to fruition. It is not just good practice to say the institution administers student satisfaction surveys at the end of each semester or faculty at the

end of each course, but it is also important to ensure the data collected is analyzed and results turned into action (Dziuban, et al. 2012). Oftentimes data analytics is accomplished by individual departments or in concert with the college's institutional effectiveness department, however, some institutions may rely on software for their data analysis which may make results more reliable and less biased.

Social capital theory. Social relationships within an organization aid in departments, and even other colleges, working together comfortably to share data. One participant had even mentioned that when he worked at a private institution, departments there were less likely to share data than were the departments at the public institution where he was currently working, even though the departments needed similar data to make decisions. Some departments were very guarded with the information they had in their databases making data gathering redundant and students less likely to candidly respond to multiple surveys. This study further confirmed that relationships between the forms of social capital as part of the organizational capacity for DDDM and the frequency and extent of data use among faculty and administrators create opportunities for new and shared knowledge amongst colleagues (Kerrigan, 2015). The ability and likelihood of departments sharing results and data analysis of student outcomes data, registration information, student interest inventory results are increased when relationships are established within the organization and maintained.

Competing values theory. Arsenault and Faerman (2014) posit that when a lack of consensus exists within an organization no one theory of organizational effectiveness exists there. However, their study further found that different models of organizational effectiveness, each having overlapping aspects, may exist within an organization. Further, they point out that the dimensions generated by Quinn and Rohrbaugh (1981, 1983) emphasized differing values

focusing on functions within an organization versus focusing on how the organization relates to its environment (Arsenault & Faerman, 2014). One of the various criteria of organizational effectiveness discussed includes stability and control versus flexibility and adaptability which participants emphasized are competing values that may drive internal change as a result of trend analysis.

I find it important to include that one participant stated administrators at her organization were less likely to make changes even though the data suggested change was necessary or at the very least supportable by evidence. One other participant stated oftentimes policy and procedural changes made at their institution were not fully explained to those affected by these changes rather, they were simply directed to implement the changes without knowing why they were taking place or to what end. Changes at organizations are usually made due to results of survey analysis, however, staff and faculty or whoever may be affected by those changes are not being told why these changes are taking place they are merely expected to enthusiastically implement the changes. Conversely, administrators may feel that due to their executive position within the organization they do not have to justify decisions they make to subordinates, however, they do to executives above them as well as to stakeholders.

Based on the competing values framework, managerial performance is directed at increasing organizational effectiveness (Arsenault & Faerman, 2014). However, if staff members do not have trust, based on the lack of communication between them and their executives, that effectiveness may be compromised or lacking. Further, decisions being made by executives are occasionally assumed, by subordinates, to be made without the support of those subordinates or data. Based on discussions with participants I also confirmed choices they've made without having a data-sheet in front of them appear to be made unconsciously. These choices seem to be

reflections of personal or organizational values regarding what is appropriate and good, and the executive is not necessarily aware of trade-offs being made when one choice is made over another, that is, what value is being avoided when its conceptual opposite is being selected (Arsenault & Faerman, 2014).

In conclusion, decisions made by executives are more likely to be supported more fully by staff and faculty members if those individuals are included, or at the very least informed, as to why decisions are being made or changes implemented which, at the very least can be substantiated by data. Based on the literature reviewed as well as interviews conducted for this study, establishing relationships amongst departments and colleagues at other colleges can enhance an institutions' organizational effectiveness. Reviewing trends within one's institution was accomplished by VPs at four of the participating colleges and the dean interviewed for this study who relied on trends from colleges participating in the concept-based curriculum. Those trends may lead an organization to make substantiated changes based on their internal and collaborative analyses.

Recommendations for Further Research

This study focused on the experiences of executives with decision making in general, as well as when making decisions based on data available to them on a particular issue germane to the decision or decisions being made. This study was only focused on the executives and experiences they have when making decisions based on the data presented to them or analyzed by them which leaves room for studying interactions of executives with subordinates and/or colleagues in their decision making. Although this study did include one director, it may be prudent to include faculty and/or staff members, not in positions of authority in future studies about decisions executives are making on their behalf or at the behest of the institution.

Future studies might also examine the analytical process executives may take when making decisions on behalf of their organizations. There are scant studies of higher education issues available for review or comparison, making the further study of how executives go about analyzing the data they are gathering and if they are using these results to make informed decisions for the people relying on them for their well-being. Review of literature and results of interviews confirm that higher education institutions gather much data about students' demography, staff, and faculty, student satisfaction, student success, graduation rates, and so on. These data are all presented on a college's website for anyone to review, specifically aimed at informing stakeholders and potential students of the institution's status. Closer analysis of program viability data may reveal whether a program is successful enough to retain, change or cancel altogether. It would be interesting to discover how executives go about deciding whether to cancel a program, which translates into a student's potential career or even their "dream," and how they go about notifying those students that this program will no longer be offered at the school.

Conclusion

The purpose of this qualitative phenomenological study was to discover how college executives not only go about their daily decision-making at the executive level of a higher education institution but to also understand experiences of these college executives in using data for decision-making as well as how they go about conducting data collection activities. Executives reported positive experiences with their daily decision making in that, most reported gut instincts and experience with similar issues helped them when needing to make snap decisions not requiring them to consult datasheets. Executives also reported that experience was

a phenomenon they also relied on when making decisions whether they had data to back up these decisions or not.

One of the most important findings for this study was that participants felt data was a valuable aspect of decision-making, particularly when needing evidence to present to stakeholders. Also needing to ensure the organization's Institutional Effectiveness departments provided the evidence they had online for the general public to review to make their decisions, whether it was parents deciding where to send their child to college or stakeholders to provide support for the college. Collaboration and open lines of communication amongst colleagues both within the organization and at colleges of similar size and constituency proved to be important to these executives when making vital decisions for their colleges. Empirical research for this study has determined that data and experience are important features for an executive when making informed decisions for their institutions.

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Appendix B: Statement of Original Work

The Concordia University Doctorate of Education Program is a collaborative community of scholar-practitioners, who seek to transform society by pursuing ethically-informed, rigorously-researched, inquiry-based projects that benefit professional, institutional, and local educational contexts. Each member of the community affirms throughout their program of study, adherence to the principles and standards outlined in the Concordia University Academic Integrity Policy. This policy states the following:

Statement of academic integrity.

As a member of the Concordia University community, I will neither engage in fraudulent or unauthorized behaviors in the presentation and completion of my work nor will I provide unauthorized assistance to others.

Explanations:

What does “fraudulent” mean?

“Fraudulent” work is any material submitted for evaluation that is falsely or improperly presented as one’s own. This includes, but is not limited to texts, graphics and other multi-media files appropriated from any source, including another individual, that are intentionally presented as all or part of a candidate’s final work without full and complete documentation.

What is “unauthorized” assistance?

“Unauthorized assistance” refers to any support candidates solicit in the completion of their work, that has not been either explicitly specified as appropriate by the instructor, or any assistance that is understood in the class context as inappropriate. This can include, but is not limited to:

- Use of unauthorized notes or another’s work during an online test
- Use of unauthorized notes or personal assistance in an online exam setting
- Inappropriate collaboration in preparation and/or completion of a project
- Unauthorized solicitation of professional resources for the completion of the work.

Statement of Original Work (Continued)

I attest that:

1. I have read, understood, and complied with all aspects of the Concordia University–Portland Academic Integrity Policy during the development and writing of this dissertation.
2. Where information and/or materials from outside sources has been used in the production of this dissertation, all information and/or materials from outside sources have been properly referenced and all permissions required for use of the information and/or materials have been obtained, in accordance with research standards outlined in the *Publication Manual of The American Psychological Association*.

Rose Marie Horst

Digital Signature

Rose M. Horst

Name (Typed)

2/19/2020

Date