Understanding Faculty Laggards' Adoption of Administrative Technologies: A Phenomenological Study

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UNDERSTANDING FACULTY LAGGARDS’ ADOPTION
OF ADMINISTRATIVE TECHNOLOGIES:
A PHENOMENOLOGICAL STUDY

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Educational Leadership (Higher Education)

by
Robert B. Simon
August 2018

Accepted by:
Dr. Michelle Boettcher, Committee Chair
Dr. D. Matthew Boyer
Dr. Pamela A. Havice
Dr. James Satterfield, Jr.
ABSTRACT

Despite a lack of empirical research on the effectiveness of administrative technologies in higher education (Anderson, Banker, & Ravindran, 2003; Selwyn, 2011), universities have pursued these technologies, or enterprise solutions, at an aggressive pace. Spending more than six billion dollars per year on enterprise solutions, higher education sees as many as half of the innovations result in failure (Liang, Saraf, Hu, and Xue, 2007). Recognizing that technologies represent a change process in the organization (Stam & Stanton, 2010), my study explores the experiences of faculty laggards with administrative technologies, particularly during the innovation diffusion process. Higher education managers can benefit from an increased understanding of faculty laggards and their adoption experiences, allowing them to more effectively construct a blueprint, or roadmap (Suchman, 1995) for successful diffusion of innovations.

Through a critical epistemological framework, and utilization of institutionalism and Rogers (2003) innovation diffusion theory as a blended theoretical construct, I designed a phenomenological study utilizing open ended interviews as the primary source of data collection. Following a targeted short survey, I conducted interviews with six faculty members pre-screened for laggard behavioral tendencies. Conversations addressed two primary research questions on faculty laggards’ experiences and incentives for faster adoption. Interview data was analyzed through a thematic framework (Glesne, 2011) and used to construct a phenomenological narrative summarizing the experiences of faculty laggards and ascertaining what would motivate them to adopt administrative technologies faster. Six phenomenological themes emerged, which were discussed
through both theoretical lenses. Textural and structural descriptions were provided for a phenomenonological summary. The study concludes with recommendations for future research as well as practice.

**Keywords:** administrative technologies, adoption, diffusion of innovations, institutionalism, faculty experience, laggards.
DEDICATION

I dedicate this dissertation to the four women that have shaped me and my life.
To my mom, who was here when I started this journey, but is not here anymore. To my daughters, Vera and Daphne, who were not here when I started, but are very much here now. And to my wife, Laurie, who was with me every step of the way.

Mom, thank you for your patience and encouragement of my questions when I was younger, which undoubtedly laid the foundation for my scholarly pursuits. Vera and Daphne, I hope this dissertation in some way inspires you to inquire about the world in your way, and find your own path to discovery. Laurie, we did it. Your support, sacrifices, patience, and eagerness to embark on this journey together will never be forgotten. Thank you and I look forward to all our future steps.

I am forever grateful to each of you.
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There are many individuals to thank, but I wish to explicitly state my gratitude to those individuals who helped most make this possible.

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I also would like to thank my committee members. Dr. Matthew Boyer, I greatly enjoyed all our interactions, in class and through my dissertation, and appreciate your guidance on interview protocols, as well as our conversations on building rapport and trust. Dr. Pam Havice, your insights on technology in higher education were helpful in understanding the faculty perspective, and I am indebted for such tremendous feedback on my dissertation proposal. Dr. James Satterfield, you were my original advisor and mentor when I started at Clemson University almost seven years ago, and you ushered me through to the proposal stage. I miss you at Clemson, and am grateful you are still a part of my doctoral experience.

Thank you to all my participants, most notably the six interview participants. I am appreciative of your time, the conversations we had, and your valuable contributions to this work. I will forever appreciate the depth and sincerity you shared in our conversations.

I would be remiss if I did not also express my gratitude to four other individuals who had a profound impact on my doctoral experience. To Dr. Reggie DesRoches, Dr.
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Finally, I wish to express my gratitude to the Grateful Dead, Frederic Chopin, and Pink Floyd. I couldn’t ask for better study partners.
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CHAPTER ONE

INTRODUCTION

Background

Organizations annually spend over $300 billion on enterprise application software (Norton, 2015). These purchases primarily consist of packaged business software programs aimed at core organizational processes and the integration of information channels within an organization (Fui-Hoon Nah, Lee-Shang Lau, & Kuang, 2001). Often referred to as enterprise solutions or systems, they are commonly secured through third-party vendors (Ramasubbu & Kemerer, 2015). Given that higher education expenditures constitute 2.1% of gross domestic spending in the United States (Office of Economic Cooperation & Development, 2014), it can be generally estimated that colleges and universities spend approximately $6.3 billion dollars per year on enterprise solutions.

The figures above are the result of fifteen plus years of aggressive information technology (IT) pursuits, which originated in the final years of the 20th century, as organizations prepared for the year 2000, also known as Y2K (Anderson, Banker, & Ravindran, 2003). However, during that time, empirical research on the success and benefits of enterprise implementations was glaringly absent, as noted by a number of scholars in multiple disciplines. Anderson et al. (2003) discussed a productivity paradox in enterprise systems within financial firms, acknowledging the lack of empirical research to support enterprise acquisition. Rogers (2003) referred to a pro-innovation bias amongst adoption in both research and practice, in his classic works on innovation diffusion (Rogers, 2003). Selwyn (2011) has submitted that technology in education is
often seen as a positive project, when he called for more critical research on the subject. Kirkwood and Price (2014) discussed biases in nomenclature associated with educational technologies. This pattern has generated an unbalanced body of knowledge, inconsistencies in assessing such innovations, and incomplete implementation strategies for organizations considering enterprise implementation.

Within higher education, the literature that does exist is primarily concerned with student learning, pedagogy, and learning technologies. This focus ignores the increasingly sizable role administrative tasks occupy of a faculty member’s role. There is reason to suggest the advancement of administrative technologies has had a negative impact on faculty views on the quality of their work life. Johnsrud (2002) provided an understanding of how administrative tasks lead to decreased quality of work life amongst academic School Chairs. Shanafelt et al. (2009) examined how administrative responsibilities are connected to career fit and burnout.

Amidst this context of administrative burdens, technology innovation is typically seen as a method to improve core organizational functions (Ramasubbu & Kemerer, 2015). However, faculty members are often presented with enterprise systems with high degrees of complexity, which attributes to failure rates in 40-60% of implementations (Liang, Saraf, Hu, and Xue, 2007). Despite the complexity and any ineffectiveness of the systems, faculty experience organizational and social pressures to adopt. Sahin (2006) acknowledged the latter when he recognized the social reinforcement faculty experience during adoption, and M. Oliver (2011) pointed to concerns over colleagues’ judgment as a potential motivating factor in adoption.
My study utilized a critical framework, as it was intended to understand the voices and perspectives of faculty who may have difficulty, fears, or opposition during enterprise implementations. At one time, critical research was restricted to marginalized groups based on demographic characteristics, such as race, gender, and class, among others (Creswell, 2013). However, critical scholarship has grown to incorporate marginalization attributable to economic, social, and political forces (Bredo, 2006). These additional forces are supported more specifically regarding enterprise adoption. Liang et al. (2007) provided an excellent review of the literature on how qualitative research has shown significant indications that external factors impact organizational decision-making regarding enterprise implementation (Liang et al., 2007). They pointed to authors such as Damanpour (1991), Hirt and Swanson (2001), and Somers and Nelson (2004), who acknowledged industrial and other external factors at varying stages in the implementation process. Moreover, Liang et al. (2007) continued by stressing one of the key challenges of enterprise research, particularly in post-assimilation studies, is the tension between macro-level and micro-level aspects of enterprise implementation.

Liang et al. (2007) proposed a research model weaving institutional forces with internal human agency. This combination of external forces and internal, micro-level change has been a recurring theme in institutional theory as well. Greenwood & Hinings (1996) explicitly addressed that institutionalism, while providing a sound theoretical framework for understanding external factors, is weak regarding assessing internal dynamics. They argued for supporting institutional-based investigations with micro-level change theories (Greenwood & Hinings, 1996). For the purpose of my study, the macro-
micro balance will be attained with the use of institutional theory, along with Rogers’ diffusion theory.

**Statement of the Problem**

The dearth of empirical research on institutional pressures and organizational responses (Hannan & Freeman, 1977; Oliver, 1991; Siegel & Wright, 2015), particularly on those organizations facing mimetic pressures, has led to a negative impact on application. Managers presiding over organizations undergoing institutional change, lack a roadmap, or blueprint, to assist with such transitions (Meyer & Rowan, 1977; Suchman, 1995). Furthermore, an innovation’s rate of adoption will include both intended and unintended consequences (Rogers, 2003). These consequences, notably the unintended, can lead to financial damages, a negative impact on the organizational social structure, and turmoil in organizational interdependency (Rogers, 2003). Without an understanding of how individuals, particularly laggards, perceive the diffusion process, managers lack the ability to tailor innovation communication strategies to the group of individuals who should be catered to in the diffusion process (Rogers, 2003).

**Purpose of Inquiry**

With a better understanding of faculty perceptions and attitudes toward technology in the workplace, managers in higher education can sidestep consequences that often accompany technology implementation. Traditional literature asserts that laggards make their decisions primarily in terms of what was done in the past (Rogers, 2003), and are often reluctant to adopt due to lack of knowledge, lack of skill, or lack of
motivation. The purpose of this study is to test Rogers’ (2003) assertion regarding past experience in a highly specified context, as well as ascertain the true roadblocks to faculty adoption of administrative technologies. The logical hypothesis is that the primary roadblock to faculty adoption would be motivation, as knowledge and skill are lesser concerns – faculty demonstrate intellectual and technical competence in other arenas of their professional life. Similarly, although higher income levels have been tied to adoption rates (Aguilar-Gallegos et al., 2015), they can also be ruled out as a contributing factor. Faculty income, although varied and perhaps not at the highest levels, are still above average in most cases, both empirically and perceptively (Bozeman & Gaughan, 2011). Faculty salaries are especially higher at an elite institution such as the setting for my study (Angermuller, 2017). If knowledge, skill, and compensation can be ruled out as contributing factors, a deeper investigation into laggards is necessary to understand their needs during adoption. Further insight into laggards’ experiences and needs provides managers the requisite understanding to strategically plan an innovation, as well as better craft their accompanying messages (Rogers, 2003).

**Significance of the Study**

The significance of this study is threefold. First, the study responds to scholars’ continued calls for critical research on institutionalism. Second, the study results provide organizational managers a better understanding of adoption perspectives amongst laggards, thereby affording them the ability to construct more effective innovation strategies. Lastly, the study results allow organizations to better predict, and strategically
avoid, key consequences of innovation, including financial loss, and the negative impacts on social structure and interdependency within an organization.

Institutionalism, the theory of how organizations evolve to resemble each other, posits three primary types of pressures: coercive, normative, and mimetic (DiMaggio & Powell, 1983). Of particular interest to this study is mimetic, which can be casually referred to as organizational peer pressure—organizations behaving like similar organizations, often times without any clear evidence of benefit, or even awareness of the mimicry (Deephouse, Bundy, Tost, & Suchman, 2017). This can be seen with many technological innovations, as technology is primarily seen as a “positive project,” (Selwyn, 2011, p.713) and change agents typically demonstrate a pro-innovation bias (Rogers, 2003).

More importantly, at least in terms of my study, is the impact this assumption of positivity has had on the literature associated with said pressures and organizational behavior. There has been a dearth of empirical research on organizational responses to such institutional influences, which has resulted in a limited body of knowledge, despite repeated calls for a contrapuntal balance in the literature (Hannan & Freeman, 1977; Powell & Colyvas, 2008; Scott, 2008; Selwyn, 2010; Selwyn, 2011). Contrapuntality can be viewed as a counter-narrative to dominant discourse, acting as a check to potential power imbalances in knowledge construction (Ashcroft & Ahluwalia, 2001). The element of power is essential to critical research, which explores a person’s position in society (Brenner, 2006) and addresses their oppression (Glesne, 2011). Furthermore, a contrapuntal approach allows for articulation of marginalized voices (Chowdhry, 2007),
which is consistent with critical theory’s focus on silent and invisible groups (Henry, 2006).

Scholars such as Gonzales (2012) have supported this sentiment by calling for an increased understanding of the impact of such changes on faculty. My study responds to these calls by investigating faculty perceptions and responses to workplace innovations, specifically amongst those faculty members that can be labeled as “laggards.”

Literature rationale aside, understanding faculty laggards’ perceptions and attitudes toward innovation and diffusion is paramount to effective change management (Rogers, 2003). The rate of adoption is often predicated by the interdependency of an organization, particularly the information shared by individuals in the organization through their own networks (Rogers, 2003) and their peer support (Tondeur, van Braak, Ertmer, Ottenbreit-Leftwich, 2017). As such, a better understanding of individual perspectives can provide much needed insights toward not only pre-innovation attitudes, but communication channels within the organization as well. This will allow managers to craft and tailor their diffusion strategies and messages to laggards, the suggested target audience for innovation diffusion (Rogers, 2003). Managerial focus on laggards is logically sound, since successful implementation is at least partially a function users’ resistance (Hornstein, 2015).

With an appropriate balance between the micro-levels of an organizational culture and context, and the macro-levels of an institutional field, improved diffusion strategies may be obtained. By narrowing the gap between innovators (those individuals first to adopt an innovation) and laggards (the last), organizations can reduce the impact of many
unintended consequences, including financial loss, negative impact on social structure, and interdependency within the organization. Given that faculty lean toward organizational perspectives over institutional pressures (Gonzales, 2010), there is strong rationale for this investigation and its results.

**Definition of Terms**

There are a number of key terms central to my study and warranting definition. I will use both constitutive and operational definitions to explicitly define terms employed in my research (Kothari, 2004). Constitutive definitions are simply defining a term, whereas operational definitions incorporate meaning drawn from processes and context (Lunenburg & Irby, 2008). These terms have been limited to those that define key terms and conceptual references essential to my research (Kothari, 2004).

- **Administrative technology** – distinct from learning, classroom, and other pedagogical technologies. A piece of information technology in the workplace designed to improve core organizational processes, and that when used, represents a change process in the organization (Stam & Stanton, 2010).

- **Coercive pressures** – formal and informal pressures that organizations face from other organizations on which they depend. These pressures can be direct (e.g., new government mandate, tax law obligations) or less direct, such as community organization demands (DiMaggio & Powell, 1983).

- **Diffusion** – “a particular type of communication in which the message content that is exchanged is concerned with a new idea (Rogers, 2003, p.18).”
- Enterprise system (or solution) – a packaged business software system that enables organizations to enhance their business processes to more effectively manage their resources and information sharing (Fui-Hoon Nah et al., 2001).
- Faculty – university personnel engaged in the traditional activities of teaching, research, and service (Austin, 2002). These are conducted for obligations to their academic profession, discipline, relevant academies, and their organizations (Austin, 1990).
- Laggards – the last members of an organization to adopt an innovation (Rogers, 2003). Earlier stages of adoption include Innovators, Early Adopters, Early Majority, and Late Majority, respectively (Rogers, 2003).
- Mimetic pressures – a type of institutional pressure, as defined by DiMaggio & Powell (1983) and reiterated by Scott (1987). Can be casually defined as organizational peer pressure.
- Normative pressures – primarily stems from professionalization, when members of a profession collectively define the conditions and methods of their work (DiMaggio & Powell, 1983).

Theoretical Framework

The intersection of technology in higher education provides numerous opportunities, and varied methodological fits, to investigate its economic, social, and political effectiveness. Therefore, it is necessary to provide theoretical choices, and their rationale, before discussing research questions.
Technology in higher education has often been seen within universities as a “positive project” (Selwyn, 2011, p. 713), meaning there is an assumption of benefit attached to technological endeavors. Unfortunately, this optimistic mindset has spread to scholarship, resulting in a dearth of critically based studies of university technologies in general (Selwyn, 2010). As such, my research will employ a critical epistemological framework, not only to provide much-needed critical study of the topic, but also to offer a contrapuntal balance to the relevant literature base.

In order to utilize a critical framework, however, it is important to acknowledge the power relations inherent in the focus of the study (Scotland, 2012). For educational studies, this power can be found in its impact on tasks and their requisite knowledge, as suggested by Foucault (1980) and echoed by Henry (2006). Additionally, the subjugation of the experiences of those individuals “disqualified as inadequate” (Foucault, 1980, p. 82) contribute to the social construction of knowledge within the system (Scotland, 2012). Consistent with critical epistemological foundations, my study will emancipate the voices of those marginalized due to their lack of participation with certain functions, in an attempt to provide a more holistic understanding of the impact of administrative technologies.

Critical theory also is suitable from a methodological perspective. Given that this study will examine individuals who are often ignored in the diffusion process (Rogers, 2003), critical study is an appropriate epistemological framework as it is often suited for examination of marginalized groups (Sipe & Constable, 1996). Moreover, silent groups provide tremendous opportunities for critical inquiry (Henry, 2006).
To properly understand technological change, researchers must examine both the micro- and macro-levels of an organization. The individual levels of an organization are represented in this research as the adopters to the diffusion of an administrative technology. They bear significance as microelements of an organization, meaning they are contributors to institutional development (Powell & Colyvas, 2008). This contribution provides a link to the institutional pressures facing an organization at the macro-level.

Higher education specifically has been recognized as an institutional field worth exploration (Scott, 1987). It has interactivity between organizations within the field, patterns of coalitions, information exchange and demands, and a mutual understanding of a common enterprise (DiMaggio & Powell, 1983). Universities encounter institutional pressures, ranging from normative to coercive, and what will serve as the focus of this research, mimetic pressures. Therefore, institutional theory offers a sound theoretical framework to examine university behaviors, as those behaviors specifically relate to change resulting from isomorphic pressures. However, institutional theory, or institutionalism, has its constraints. The theory has been questioned as a theory of change, instead resembling more an explanation of similarity (Greenwood & Hinings, 1996). However, it can be a successful theoretical construct, when its weakness in analyzing internal dynamics is buttressed by an additional theoretical framework (Greenwood & Hinings, 1996). Considering that understanding change is about understanding variations in responses, analyses of organizational adoption and diffusion offer logical starting points (Greenwood & Hinings, 1996).
To date, varied cognate theories have either been employed or suggested for use as a theoretical complement. C. Oliver’s (1991) work utilized resource dependencies theory, and Swanson (1994) discussed adoption and diffusion studies, to name two examples. Neoinstitutionalism is another choice as it adds to institutionalism by explaining organizational responses to institutional pressures by function of its internal dynamics (Greenwood & Hinings, 1996). Most importantly, institutions are reproduced through the everyday activities of individuals (Powell & Colyvas, 2008), as micro processes pull down values and beliefs from the macro level and create different expectations about the performance of individuals in task groups (Powell & Colyvas, 2008). As such, complementary theories would further explain individual reactions, experiences, attitudes, and behavior during such transitions.

If one end goal is to provide a better roadmap for managers, as encouraged by Meyer & Rowan (1977) and Suchman (1995), then utilization of human resource development (HRD) theories make sense. Many HRD theories incorporate micro levels of an organization (Kaufman, 2006), however the body of knowledge could benefit from a better understanding of the impact of these choices. Specifically, impacts on the organization as a whole and its individual members. An increased understanding of these impacts will enhance managerial efforts in constructing such roadmaps.

Of the several HRD theories available, innovation diffusion theory, as put forth by Rogers (2003) serves as a powerful approach in analyzing individual response to organizational change (Malopinsky & Osman, 2006). This theory connects individual adoption of innovations to organizational efficiency (Agarwal, Ahuja, Carter, & Gans,
1998), and offers varied explanations for different types of adopters, ranging from innovators to laggards (Rogers, 2003). Swanson (1994) previously advocated for this theory within institutionalism, and specifically referenced holdouts, or laggards, as a particularly interesting population for study.

Research Questions

My study was guided by two primary research questions:

1) What are the experiences of faculty laggards during the diffusion of an administrative technology?

2) What motivations would encourage faculty laggards to more quickly adopt administrative technologies?

Limitations

As with any research, there are limitations to my study. Limitations are distinct from delimitations in that they are generally not under the control of the researcher (Lunenberg & Irby, 2008). First, generalization of results to a broader population of faculty is not the goal of the study, and accordingly, not advised to predict future practice (Tracy, 2010). With qualitative research, transferability is the more appropriate aim (Marshall, 1996). The research is presented to the reader, and fellow researchers, in a manner as to evoke awareness, personal connection, and inspiration for improvement in their own practice (Tracy, 2010). Most importantly, primary research concerns over the extension of knowledge, improvement on practice, connection to future research, and empowerment are addressed (Tracy, 2010).
Similarly, the sampling technique is not used as a means toward generalization, but does provide insights into, and an understanding of, a phenomenon experienced by a type of faculty at one institution. The critical epistemology underlying this study warrants exploration of one subset of faculty, as opposed to a broader cross-section. Further discussion is offered in Chapter 3.

The singular setting is another limitation. All participants are from a large, elite, public university in the Southeastern United States. The institution is classified by the Carnegie Classification of U.S. Institutions of Higher Education as an R1 doctoral university, meaning it produces a large number of doctoral graduates each year, and conducts research activity at the highest level (McCormick & Zhao, 2005). Experiences will undoubtedly vary across public-private lines, research-based versus liberal arts colleges, institutional reputation, and perhaps disciplinary profiles.

The choice of critical theory could be seen as a limitation amongst some researchers, as it is most often employed in studies regarding racial, class, or gender constraints (Creswell, 2013). Although Creswell (2013) expands the central themes of critical theory to allow for dominance, alienation, and aspects of social life, the majority of critical theory use is devoted to groups marginalized based on the aforementioned demographic criteria. To limit critical theory to demography, however, shortchanges diversity. Sufficient moral and ethical considerations aside, a key benefit of diversity is intellectually rich and varied communities. In their landmark decision of Grutter v. Bollinger (2003), the United States Supreme Court stated “the diversity that furthers a compelling state interest encompasses a far broader array of qualifications and
characteristics of which racial or ethnic origin is but a single though important element (Grutter v. Bollinger, 539 U.S. 306, 2003).” The Court’s decision supports diversity including more aspects other than demography. As such, acknowledging groups based on ideological marginalization – as is the case with laggards – is a prudent use of a critical framework.

The final limitations involve the identification and procurement of laggards and their involvement. Since the laggard classification is both highly varied and difficult to quantify, at least prior to investigation, determining which individuals could be fairly described as laggards proved a challenge. Moreover, the term laggards can often have a negative connotation, and it is important to note diffusion scholars who utilize the term intend no disrespect (Rogers, 2003). The term is maintained for the purposes of this study to remain consistent with other research on laggards, and because any term used to refer to such a group would run the risk of negative nomenclature (Rogers, 2003).

Methodological steps were taken to pre-screen potential participants, primarily a targeted survey aimed at users who showed no use of a specific technology. The survey included an invitation to participate in interviews regarding their experiences with administrative technologies. Snowball sampling was used, based on generating recommendations of individuals who have exhibited laggard behavior or espoused laggard perspectives.

As can be imagined, obtaining a high rate of survey responses, and therefore potential interview participants, was difficult given a reasonably assumed reluctance from laggards to engage in an online survey. This was previously identified as a potential
deterrent. The required time for interviews undoubtedly also served as a deterrent. Lastly, as participants would reveal in interviews, some laggards demonstrated a tendency to deny their laggard behavior, which could lead to a potential participant determining that the survey was not geared toward them. Further discussion will be provided in the final chapter.

**Delimitations**

Due to the difficulty of acquiring faculty laggard participation in the survey and interviews, I chose to conduct my second interviews via email (Appendix F). By placing more importance on convenience for the participant (Glesne, 2011), I was able to obtain follow-up comments from five of the six participants, including two that preferred another in-person session. Additional discussion is provided in later chapters.

I must add commentary on the selection of one specific technology as a filtering technique during identification of potential participants. I recognize that enterprise research should move beyond the single implementation focus of so much previous scholarship (Williams & Pollock, 2012), so I only utilized the single tool for identification purposes. To further offset single implementation concerns, both the survey questions and interview discussions centered on participants’ experiences with multiple technologies, and across varying stages of the lifecycle of a product (Williams & Pollock, 2012).
Assumptions

There are two assumptions worth noting. First, that login data is reliable, and an accurate depicter of anti-innovation views. Second, that individual will speak freely and candidly. As for the login data, the data was pulled directly from third-party servers, in the manner of all other institutional functions utilizing the software. Thus, this assumption can be reasonably considered met. In terms of the accurate depicter of personal views (i.e., what perceived attributes they may carry (Rogers, 2003), the assumption was not as clearly met. I reasoned that a broad dissemination of a survey might not yield sufficient laggard responses, so a preliminary “screening” method was in order. This option was the most practical and informative method available, and allowed for more tailored survey content and marketing to a population of potential laggards. Additionally, as necessary, snowball sampling was incorporated to increase the potential pool of participants, thereby mitigating the importance of login data accurately representing personal views.

Finally, the assumption of individuals speaking freely and candidly was primarily an issue of successfully building rapport and trust with participants. My approach was to employ broad, general strategies at building rapport and trust, to avoid the common calamity of adhering to a more technical approach (Dick, 2014). I utilized Taylor & Bogdan’s (1998) suggestions for five primary measures, which included paying homage to routine, establishing common grounds, helping, humility, and showing interest.
Organization of the Study

This research is presented in five chapters, each broken into subsections. Chapter One provides the introduction to and background of the study. This chapter includes the problem, purpose, and significance statements, along with definitions, theoretical framework, research questions, limitations, assumptions, and the organization of the study.

Chapter Two offers a full literature review, concentrating on institutional theory (specifically isomorphic concepts) and diffusion of innovations theory. A full overview of methodology is given in Chapter Three, including participant selection, research design, data collection strategies, interview protocols, validity, data analysis, and how rapport and trust will be attained in the interview process.

Chapter Four presents the findings and data analysis, and discuss how coding applied to the research questions. Chapter Five concludes this research by summarizing the entire study, discuss findings, practical applications, and provide suggestions for both practice and scholarly investigation.
Institutionalism in Higher Education

Organizations were typically seen as closed, rational systems in early organizational theory (Suchman, 1995). Scholars began to recognize the impact of environmental, industrial, social, economic, and political factors in the 1960s and 1970s. From there, organizational theory took on more of an open systems approach (Suchman, 1995), marking the beginning of a large and vast theoretical perspective that would later evolve into institutional theory. Institutionalism, as it is more commonly referred to, is a construct that views organizational structure as not only a byproduct of its internal structure and characteristics, but also its external environment (Scott, 1987). In fact, it is so comprehensive and broadly applicable, that it is advised to recognize several variants of the theory (Scott, 1987).

The past four decades have seen a progressive, albeit slow moving at times, development of institutional theory. Concepts such as legitimacy and isomorphic pressures have evolved from a few levels of thinking to a varied, rich, and still-evolving context of research areas relevant to a diverse population of scholars (Scott, 2008). As such, some definitions and understandings have experienced revision and refining over this period. In their classic genesis to institutional theory and isomorphic pressures, DiMaggio & Powell (1983) posited an institution as a structuration, consisting of interactivity between organizations within the field, patterns of coalitions, information exchange and demands, and a mutual understanding of a common enterprise (DiMaggio
& Powell, 1983). Although a useful working definition at the time, later developments have refined our understanding of institutions.

Scott (1987) added to the theory by including high levels of agreement about policies and areas to which they apply. More recent authors, such as Powell & Colyvas (2008) recognized the significance of individuals, and other microelements of an organization as contributors to institutional development. In a piece more focused on globalization, Vaira (2004) realized the political, regulatory, and governance elements of an institution, which has been a continual topic in institutional literature.

Given that organizational fields can be interpreted differently depending on the research topic (Hannan & Freeman, 1977; Singh, Tucker, & House, 1986), it is important to be clear to acknowledge how the aforementioned contributions as a relevant definition of institution were applied. Examining technology in higher education through such an institutional lens, it is assumed that innovation and change are inherently linked, as has been mentioned previously. Furthermore, the assumption is that individual agency can be connected to institutional context, an extant phenomenon discussed at length by Hay & Wincott (1998). As broad of an organizational field as higher education may be (Hannan & Freeman, 1977), the majority of four-year American colleges and universities sit within such an institution, and a strong one at that (Deephouse, 1996). They share common understandings and definitions of organizational behavior and structure that distinguish appropriateness from non-appropriateness (Tolbert, 1985).

Scott’s (1987) work specified higher education as an institutional field worth exploration. Universities encounter institutional pressures, ranging from normative (e.g.,
recreation centers on a campus, social media presence) to coercive (e.g., accreditation, system governance, funding sources), and what will serve as the focus of this paper, mimetic pressures. As mentioned in the definitions, mimetic pressures can be casually understood as institutional peer pressure, as seen in the surge of MOOCs, or massively open online courses (Gao & Yang, 2015). At one time, MOOCs were pursued aggressively by major universities despite an overwhelming failure rate (Rai & Chunrao, 2016), suggesting legitimacy motivations. Institutional theory offers a sound theoretical framework to examine university behaviors, as they specifically relate to change resulting from isomorphic pressures.

The recent proliferation of information and communication technologies in the university workplace provides a useful setting for institutional analysis within higher education. Not only has contemporary society seen a rapid advancement and influx of information and communication technologies (Selwyn, 2012), but universities have also made substantial investments in enterprise programs (Goldstein, 2005). Perhaps paradoxically, there has been little research on the effectiveness of such technologies (Bullfin, Henderson, Johnson, & Selwyn, 2014; Selwyn, 2011; Tellis, 1997). The research that does exist does not indicate that usage, and thereby effectiveness, is matching the pace of acquisition and implementation (Selwyn, 2011, 2015; Tellis, 1997). Without clear evidence of technical or fiscal improvements, it is logical to conclude that other factors must be creating pressures on universities to adopt what amounts to, at the very least, the potential for a new archetypal template for universities.
These pressures may include external accountability or commercialization trends (Burbules & Callister, Jr., 2000) or even social forces, which have long been acknowledged to apply institutional pressures on organizations (Deephouse, 1999; Greenwood & Hinings, 1996). In fact, Singh et al. (1986) went one step further in hinting at social criteria as a potential measure of effectiveness, thereby reinforcing social pressures and expectations as an important part of institutionalism. However, as has been discussed by Suchman (1995), audience interpretations of an institutional change may often diverge from organizational expectations, suggesting that social pressures and demands may not be connected to technical performance and efficiency, as well as organizational goals.

My study explored this gap between effectiveness and organizational pursuits by focusing on the specific use of administrative technologies, which are distinct from learning, classroom, and other pedagogical technologies. Administrative technologies can be defined as a piece of information technology in the workplace, that when used, represents a change process in the organization (Stam & Stanton, 2010). Through this process, organizational members come to know the technology, as they adapt to new strategies and methods. This definition is particularly helpful, as it recognizes the change and technology are related (Fahmy, 2004).

The question then becomes why would universities pursue such technologies at such a fervent pace, with little evidence on which to base their decisions? So far, the evidence has actually resulted in several negative conclusions. Tellis (1997) specified inadequate planning, user dissatisfaction, differing viewpoints between faculty and
administrators, unclear documentation of fiscal and human resources, and clear and inferior maintenance as negative outcomes. Unwin (2007) added negative impact on faculty members’ professional experiences as well as organizational performance.

Adoption to institutional trends in absence of sound technical rationale is not new. Meyer & Rowan (1977) began this discussion by stressing that organizations chase myths and exalt ceremony over technical production (Meyer & Rowan, 1977; Suchman, 1995), and depending on how successful a trend may be, educational organizations often demonstrate legitimacy through normative processes and structure, as opposed to effectiveness (Suchman, 1995). Interestingly, this directly contradicts the Carnegie Classification of U.S. Institutions of Higher Education’s first published classifications in New Students, New Places (1971), which recommended preserving and increasing the diversity of institutions, while resisting homogenization (McCormick & Zhao, 2005).

Institutional literature has asserted several times that early adopters operate in rational self-interest (Scott, 1987) and base adoption decisions on technical performance reasons (Greenwood & Hinings, 1996). Meanwhile, later adopters simply model successful organizations (Scott, 1987). While Scott (1987) was primarily suggesting early adopters operate on self-interest, in this case, where there is an unclear evidence of technical or fiscal improvements, the point still resonates. If even the earliest adopters are pursuing administrative technologies without clear rationale, then they are acting as the later adopters typically operate. That is, basing decisions on institutional pressures as opposed to performance reasons. Suchman (1995) posited that higher education would
often, without clear tangible outcomes, aim more for institutional legitimacy, as opposed to strategic improvements.

DiMaggio & Powell (1983) originally argued mimetic pressures are most pressing on weak organizations – those that are poorly understood, have ambiguous goals, and face uncertainty (DiMaggio & Powell, 1983). The latter claim has been echoed repeatedly, namely by Scott (1987), Oliver (1991), Suchman (1995), and Deephouse (1996). Moreover, as was detailed in Greenwood & Hinings’ (1996) important work, radical change – that is, change disembarking from the prevailing archetypal templates – requires technical performance over legitimacy in the early stages of a movement.

With that said, what provides an intriguing point of study is that the rise of administrative technologies is revealing a different trend. Instead of clear, proven benefit to universities, there is uncertainty regarding the movement, and lack of sound technical rationale behind many of these innovations. Despite this void, the list of institutions pursuing administrative technologies is long, and often includes elite institutions. Such coalition-building within an institutional setting is also not new – Suchman (1995) recognized that organizations may group together and exert seemingly normative pressures on other organizations by “proselytizing” (Suchman, 1995, p. 592) their approaches. However, this example of organizational grouping is still without clear rationale as to why. Before continuing, any competing explanations must first be acknowledged and addressed (Scott, 1987).

In addition to mimetic pressures, organizations also face normative and coercive pressures (DiMaggio & Powell, 1983; Scott, 1987). In this case, however, the latter two
are not as applicable, if at all. Clearly, not all universities utilize the same approaches to admissions, degree auditing, grade submissions, and other examples of administrative technologies, given their organizational structures, governance policies, and information technology infrastructure and systems. Despite best practice sharing, and a finite list of vendors, there is still not an established norm when it comes of many of the processes.

Coercive pressures are a bit more relevant, as in some cases university systems or accrediting bodies will demand its member institutions adopt a single system, or provide singular mechanisms for reporting responsibilities. However, when doing so, the university systems are operating in rational self-interest and technical rationale. Instead, mimetic pressures offer a clearer explanation, as universities are engaging in these pursuits without clear rationale as to why (Marion, 2005). To ensure the scope of my study remained focused on mimetic pressures, I isolated the pre-screening method to use of one particular administrative technology, which was neither required by other institutions from within the system, nor demanded by any accrediting or legal bodies. Although neither normative nor coercive pressures may provide useful frameworks for this investigation, the rejection of both pressures as a theoretical framework adds further intrigue of the disconnection between advancement and empirical rationale behind its pursuit.

Technology has long been seen within universities as a “positive project” (Selwyn, 2011, p. 713), meaning there is an assumption of benefit attached to technology endeavors. Unfortunately, this optimistic mindset has spread to scholarship, resulting in a dearth of critically based study of university technologies in general (Selwyn, 2010).
Unfortunately, this is a recurring theme in institutional theory with repeated calls for further critical research. Hannan & Freeman (1977) suggested research focusing on nonisomorphic organizations, and the internal obstacles they face when encountering institutional pressures. Scott (1987) encouraged institutional research to become more articulate about alternative paths and factors determining said paths (Scott, 1987). C. Oliver (1991) called for more qualitative research on the subject in general, and Powell & Colyvas (2008) suggested document analysis.

As institutionalism, with its focus on the individual organization, evolved into neoinstitutionalism and its focus on the institution itself (Greenwood & Hinings, 1996), calls for research have turned to examining all levels of an organization (Deephouse & Suchman, 2008). Institutional theory identified reorganization as a common response to institutional pressures (Singh et al, 1986), providing rationale for emphasis on organizational dynamics and experience within the organization. Previously, emphasis was placed on the organization as a whole or its larger institutional setting.

Traditionally, the literature was lacking in attention to behaviors, agency, and interest in response to pressures (C. Oliver, 1991), a trend that continues in higher education. Gonzales (2012) discussed the surprisingly oft-ignored perspective of faculty members in the literature, specifically on faculty responses to university changes resulting from mission creep, identifying potential for one population of research participants. Specifically, faculty whose opposition voices have been largely muted during the implementation process, and in some cases, marginalized on campus. This ostracizing is not confined to faculty and higher education, but in many institutions, non-
adoption can lead to marginalization from one’s peers (M. Oliver, 2011). Specifically within higher education, Roe (2002) acknowledged community college faculty members were marginalized by their non-use of information technologies. Moxley (2008) discussed the same marginalization experienced by composition faculty who exhibited reluctance to adopt online communication technologies, and Jordan et al. (2012) witnessed the same experience amongst faculty who opposed community-engaged scholarship. Therefore, critical studies are a suitable epistemological framework for two reasons: first, critical studies are often suited for examination of marginalized groups (Sipe & Constable, 1996), and second, silent groups provide tremendous opportunities for critical inquiry (Henry, 2006).

The lack of contrapuntal literature is especially problematic when realizing that radical change is difficult in terms of mobilization of internal support, and only exists when intraorganizational interests become competitive or reformative (Greenwood & Hinings, 1996). Meaning, radical change is dependent on the varied factions of an organization either being mixed on whether to pursue change (competitive) or unanimous for change (reformative), ensuring that organizational dynamics play a critical role in accepting or rejecting institutionalized practices (Greenwood & Hinings, 1996). Therefore, examinations of organizational dynamics, and of all levels of an organization, are fundamental to a better understanding of organizational responses to institutional pressures.

For most of its existence, institutional theory has lacked these empirical understandings, and the theory has suffered for it (Scott, 2008). Fortunately, there have
been steps in the right direction. Scott (2008) called for increased use of formal analytical methods, and Powell and Colyvas (2008) encouraged examinations of the contrast between the public side of an organization and its “backstage reality” (Powell & Colyvas, 2008, p. 278). Still, the low levels of empirical research of institutional pressures and organizational responses have resulted in a negative impact on application: managers presiding over organizations undergoing institutional change, lack the aforementioned roadmap, or blueprint, to assist with such transitions (Meyer & Rowan, 1977; Suchman, 1995).

Theoretically, institutionalism has been questioned as a theory of change, instead resembling more an explanation of similarity (Greenwood & Hinings, 1996). However, as stated previously, when its weakness in analyzing internal dynamics is supported by an additional theoretical framework (Greenwood & Hinings, 1996), institutional theory is strengthened. If understanding change is about understanding individual and organizational responses, analyses of organizational adoption and diffusion rather than resistance and inertia, offer sound points of disembarkation (Greenwood & Hinings, 1996). Several accompanying theories have either been used or encouraged – Oliver’s (1991) work utilized resource dependencies theory, and Swanson (1994) discussed adoption and diffusion studies, to name two examples.

Since neoinstitutionalism explains responses of the organization by function of its internal dynamics (Greenwood & Hinings, 1996), and institutions are a byproduct of everyday activities of individuals (Powell & Colyvas, 2008), there are several theoretical options from which to choose. Given that micro processes draw values and beliefs from
the macro level, which creates different expectations about performance (Powell & Colyvas, 2008), suggested theories would further explain individual reactions, experiences, attitudes, and behavior during such transitions. If a goal is to provide better strategies for managers, as encouraged by Meyer & Rowan (1977) and Suchman (1995), then utilization of human resource development (HRD) theories make sense. HRD theories not only incorporate micro levels of an organization (Kaufman, 2006), but also offer a better understanding of the impact of these choices, on the organization and its individual members. Thus, HRD theories are an appropriate complement to efforts in constructing such management strategies.

Innovation diffusion theory, as put forth originally by Rogers (1962), serves as a useful tool in analyzing individual responses to organizational change (Malopinsky & Osman, 2006). By connecting individual adoption of innovations to organizational efficiency (Agarwal, Ahuja, Carter, & Gans, 1998), innovation diffusion theory furnishes varied explanations for different types of adopters (Rogers, 2003). This theory has had its advocates from within institutionalism before, most notably by Swanson (1994) who specifically referenced laggards as an interesting population for study. In the realm of administrative technologies in higher education, innovation diffusion theory could be used with institutionalism to understand the movement’s impact on the individual, as well as implications for organizational efficiency, adoption, and technical performance. Suggested methodological choices include observations, interviews, and document analysis, which was previously suggested by Powell & Colyvas (2008).
**Diffusion of Innovations Theory**

Broadly speaking, understanding how and why organizations change has been a central goal for scholars in management, as well as other disciplines, for several decades (Van De Ven & Poole, 1995). In that same timespan, there has been a surge in policies aimed at the pursuit of information technologies (Attewell, 1992), as well as the proliferation of information technologies in the workplace (Agarwal & Prasad, 1998). The implementation, adoption, and acceptance of these technologies have been seen as a manifestation of organizational change (Hornstein, 2015), and has accordingly received considerable attention from scholars (Agarwal & Prasad, 1998; Paulsen, 2016).

Among the leading theories resulting from information systems research, is the classic diffusion of innovations, or innovation diffusion theory (IDT), put forth by Rogers (2003). IDT explains how an innovation is communicated through a social system over time (Rogers, 2003), and although it has encountered criticisms over the ensuing decades, it has withstood them to still stand as the most suitable theoretical framework available for diffusion scholars (Brancheau & Wetherbe, 1990; Straub, 2009). IDT is also considered the most appropriate choice for studies of the adoption of technology in higher education (Sahin, 2006), and is used so heavily in investigations of new technologies, that *technology* and *innovation* are often seen as synonyms (Rogers, 2003; Sahin, 2006). As technology has played a recurring role in IDT’s history, from its origin to present strengths, IDT has evolved into a theoretically sound framework for investigations of technological innovation. It is important, at this point, to review IDT itself, discuss known criticisms, and discuss its strengths and fit for this study.
IDT consists of four primary elements: innovation, communication channels, time, and social system, which are identifiable in all diffusion studies (Rogers, 2003). As an innovation is introduced into an organization, the rate of adoption, generally measured as the number of individuals who adopt an innovation over a specific period of time (Brancheau & Wetherbe, 1990; Rogers, 2003), reflects an S-shaped curve, with percentage, or number, or adopters charted over time (Rogers, 2003). Although the slope may vary given the organization, innovation, communication strategies, as well as other variables (to be discussed shortly), it will remain true to its S-shape, and can be divided into five adopter categories: innovators, early adopters, early majority, late majority, and laggards (Rogers, 2003). These categories are of particular importance to my study, as they were used to identify participants, and guide interview questions. First, a more thorough discussion of each element of IDT must be provided.

Individuals adopt innovations, such as any idea, object, or practice that is perceived as new (Brancheau & Wetherbe, 1990; Rogers, 2003). Before continuing, it is important to note that while diffusion research has included a stream focused on the organizational-level adoption rates (Venkatesh, Morris, Davis, & Davis, 2003), the majority of the literature is focused on individual adoption (Brancheau & Wetherbe, 1990; Tarhini, Arachichilage, & Abbasi, 2015). This segregation of approaches has resulted in a shortage of “hard and fast” (Strang & Soule, 1998, p. 267) rules that can accommodate both diffusion models based on decision-making as well as environmental factors (Strang & Soule, 1998). In typical technologies, there are two components, a hardware aspect, consisting of the physical object that holds the technology, and
software, which consists of the information, instructions, and commands (Rogers, 2003). Constructing boundaries around the technology is important to assure the innovation does not overlap with other innovations causing technology clusters (Rogers, 2003). These clusters can confound the investigation process by putting limitations on some studies (Rogers, 2003), and have been shown to impede organizational adoption (Aguilar-Gallegos et al., 2015). This study utilized one specific technology for pre-screening purposes, which had no interrelatedness (at least in terms of the adopter) to other technologies. More discussion is offered in Chapter 3.

An important element of Rogers’ (1962) IDT is that the theory concentrates on the adopter, and their decision-making, peer influence, and other behaviors. Key constructs include perceived attributes, the individual’s attitudes, beliefs, and values, and communication (Karahanna, Straub, & Chervany, 1999). Three decades ago, Rogers (1983) listed five perceived attributes of innovations: relative advantage, compatibility, complexity, observability, and trialability (Moore & Benbasat, 1991; Rogers, 1983). Relative advantage is simply the degree to which an innovation is perceived as superior to its predecessor; compatibility is the degree it is perceived as consistent with the existing values and needs of the adopter; complexity is the degree of perceived difficulty of use; observability, the degree it is visible to others; lastly, trialability is the degree it can be experimented with (Rogers, 2003).

Other authors, most notably Moore & Benbasat (1991) have contributed additional attributes. In their successful development of an instrument to measure perceived attributes, the authors drew two new attributes from the previously termed
observability, result demonstrability and visibility, and added voluntariness and image (Moore & Benbasat, 1991). These attributes can be quite successful variables predicting adoption rates, and offered a useful tool for the study of the diffusion of innovations (Moore & Benbasat, 1991; Rogers, 2003).

Communication had been previously defined as the process by which individuals create and share information with each other, but diffusion is a particular type of communication in that the content shared is concerned with an innovation (Rogers, 2003). Particular importance is placed on the exchange between two adopters, one of which who has experienced the innovation in some way, and the other has not (Rogers, 2003). The body of knowledge has reflected this importance, as communication studies are among the more popular diffusion research (Greenhalgh et al., 2004). This personal diffusion can occur in different ways, including mass media and interpersonal, to name the primary two, but whatever form they take exists in a communication channel (Rogers, 2003). The difference between exposure and experience between the two communicators is an important distinction, as it provides further understanding of interpersonal communications within organizations.

Most often, individuals tend to communicate with others who are homophilous, i.e., the same, or similar, to themselves. However, in most cases, such as diffusion through organizations, the participants are typically heterophilous (Rogers, 2003). This can, and often does, have a direct impact on adoption rates, as diffusion spreads through heterophilous organizations at a faster rate (Rogers, 2003). Given that most organizational members depend mainly upon subjective evaluations from their peers
(Bozeman & Gaughan, 2011; Rogers, 2003), this contrast holds potential for an increased understanding of laggards. As it relates to this study, interview questions will explore laggards’ communication channels, testing the homophily of whom they communicate with, as well as the potential insights regarding laggards themselves.

The inclusion of time is one unique aspect of IDT, when compared to other behavioral theories (Rogers, 2003), and is considered one of its strengths (Sahin, 2006). The inclusion of time has been so foundational it has led to its inclusion in most, if not all, diffusion theories (Toledo, 2005). In this case, time covers the innovation-decision process, conceptualized by Rogers (2003) into five main steps: knowledge, persuasion, decision, implementation, and confirmation. First, an individual learns of an innovation’s existence and gains some understanding of it, by becoming aware, learning how to use the innovation, or understanding its principles (Sahin, 2006). Second, they form a favorable or unfavorable attitude toward the innovation, which is a sensitive time for the adopter (Sahin, 2006). During the third step, individuals engage in activities (Toledo, 2005), and make decisions that are optional, collective, or authoritative (Rogers, 2003). The fourth step, implementation, is when an innovation is actually put to use, and is a volatile period – uncertainty may arise, and communication channels become apparent (Sahin, 2006). The fifth and final step, confirmation, occurs when an adopter seeks reinforcement, or reversal, of their decision (Rogers, 2003).

This final step is where attitudes are most crucial (Sahin, 2006), although in my study’s context, close attention was paid to the decision stage, given the staff-faculty dynamic. In many cases, including the case of this investigation, staff members make
administrative decisions, but the success is contingent on faculty usage. If the decision is authoritative in that respect, it controls one variable, which is of significant assistance to future quantitative studies involving similar participants. Furthermore, the decision point represents a crucial point in the innovation process (Rogers, 2003).

During the implementation stage, reinvention, or the modifications of an innovation, is most likely to occur (Rogers, 2003). For this study, reinvention also guided certain interview questions and helped to explore communication channels with administrative units. Reinvention insights were helpful in understanding the impacts of an overtly aligned decision on end users (Marker, 2006).

The final element, social system, can be defined as a set of interrelated units engaging in problem solving and shared activities aimed at a shared goal (Rogers, 2003; Sahin, 2006). One important aspect of IDT in that all diffusion spreads through a social system, which often affects individuals perceptions, attitudes, and most notably, innovativeness, which is what drives the aforementioned five adopter categories (Rogers, 2003; Sahin, 2006). The social aspect is of particular interest to my study, as there are multiple social systems that exist on a university campus. Participants in my study all reside in a particular academic department, which is part of a larger college, which is part of the institution itself. Of course, within the academic department, peer dynamics and groups will undoubtedly impact adoption perspectives. A purpose of my study was to identify those communication channels most highly correlated to individual adoption.

Additional aspects of IDT include consequences of an innovation, including desirable versus undesirable, direct versus indirect, and anticipated versus unanticipated
This study attempted to provide a better understanding of laggards’ experiences during the diffusion process, which although cannot eliminate all potential consequences, may afford improved insights into the meaning attached to innovations, which will assist in predicting subjective perceptions within an organization (Rogers, 2003).

Of course, IDT is not without its criticisms. Notable critiques of IDT have centered on the individual blame aspect in diffusion research (Rogers, 2003), since diffusion models often present the adopter as a reflective decision-maker (Strang & Soule, 1998). This individual choice aspect of many diffusion studies is predicated off of two theoretical constraints of IDT. First, that there is a demand for the innovation, and that individuals have the same opportunity to adopt, only limited by their own innovativeness (Attewell, 1992). Second, that there is a pro-innovation bias (Rogers, 2003), which suggests that an innovation should be adopted. This theoretical dynamic leads to the general thought of simply how long will it be until an individual adopts an innovation.

Attewell (1992) also successfully pointed out that diffusion studies could be negatively impacted if all basic assumptions of IDT are not met. While this is sound advice toward any study involving most theories, the assumptions are met in this study – even if faculty did not play an active part in the decision process, for example, it can still be measured as an authoritative-decision variable. Additionally, it has been recognized that the stages of diffusion do not necessarily have to occur in the same order (Rogers, 2003; Sahin, 2006).
There have been several other related models and theories that have spawned during IDT’s history, and which deserve to be addressed. The purpose of this summary is not to provide in-depth discussion of each alternative theory or model, but instead to identify the rationale for their dismissal, and ultimate selection of IDT. The technology acceptance model (TAM) centers on adopter beliefs regarding potential job enhancement (Davis, 1989), but is not robust enough for the purposes of this study. While beliefs and attitudes are certainly one explorative path, additional inquiry will be devoted to communications, peer influence, and decision-making, all strong components of IDT. Furthermore, TAM was originally developed with a focus on system characteristics, which are not the primary focus of my study (Rauniar, Rawski, Yang, & Johnson, 2014). Similarly, other theories of individual acceptance (Venkatesh et al, 2003), such as theory of reasoned action (TRA) motivational model (MM), theory of planned behavior (TPB) (and the combined TAM and TPB) are more psychological in nature (Venkatesh et al, 2003), and are better suited for behavioral studies.

There are two other individual acceptance theories that hold different potential. Model of PC utilization (MPCU) theory, although involving some social factors (Thompson, Higgins, & Howell, 1991), centers more on variation of information technologies and is focused more on job fit (Venkatesh et al, 2003). MPCU does not fit this study, which focuses on only one innovation in particular. The second theory, social cognitive theory (SCT), is one of the most powerful theories of human behavior (Venkatesh et al, 2003). However, SCT is solely about the social cognition which does
not support important elements of the social system and peer influence, both present in this study.

Lastly, theories such as consumer behavior research and cognitive dissonance theory, which are both often employed in end-user studies (Karahanna et al, 1999), are concerned more with usage than adoption. These theories can be used in understanding change in beliefs resulting from use, whereas the focus of this research is on adoption.

Before concluding, it should be noted that my use of IDT theory is complemented well by the use of institutionalism. In many similar cases as is the focus of my study, the decision is made at the organizational level, in large part due to institutional pressures, and they provide a successful combination to examine the macro- and micro-levels of the topic. Abrahamson (1991) identified this contrast in his discussion of the assumptions in the dominant diffusion scholarship (Abrahamson, 1991), and Strang & Soule (1998) also highlighted the micro-/macro-dynamic, suggesting lines of future research (Strang & Soule, 1998). As such, the usage of both institutionalism and IDT provides a sound theoretical framing for my study.

**Conceptualizing the Study**

My study conjoined institutional theory with IDT, and examined faculty adoption to administrative technologies resulting from mimetic pressures. More specifically, a critical epistemology underlined an attempt to understand faculty experience and motivations during the implementation process, thereby affording a new voice to the empirical research on the subject. The intended result is more effective and balanced
strategies for managers to employ during innovations within their organization, both at a micro-level and a macro-level.

The concept of this study can be viewed as investigating the practical point where two theories (institutionalism and IDT) merge, by examining the impact on individual work life within a larger organizational field. The results then “unmerge” and are applicable to all levels of an organization, as neoinstitutionalism would support (Deephouse & Suchman, 2008), particularly the micro-level (individual work) and macro-level (responding to isomorphic pressures).
CHAPTER THREE
METHODOLOGY

Introduction

Given the purpose of this study was to understand individuals’ experiences and attitudes, particularly during the diffusion process within their organizational social structure, a qualitative approach is an appropriate choice (Glesne, 2011). I chose a phenomenological methodology, primarily because the focus of this paper lies in understanding, albeit through individual stories, the essence of the laggards’ collective experience (Creswell, 2013). Since the consequences of implementation are often organizational-wide (e.g., social structure, interdependency), a phenomenological methodology is a logical choice.

I employed a critical theoretical perspective, as it lent itself well to marginalized populations, and also supported the need for further critical research on technology in education. As Selwyn (2010, 2011, 2015) wrote on many occasions, there is a dearth of critical literature on the subject of technology in education. Allowing for such contrapuntal voices to be heard, we may find a pragmatic balance to the implementation of administrative technologies. Since laggards, the aforementioned target population can often be a marginalized group on a campus, a critical study is fitting as silent and invisible populations represent opportunities for critical questions (Henry, 2006).

This phenomenological study followed Creswell’s (2013) basic premise of collecting data from individuals who have experienced a phenomenon and develop a “composite description of the essence of the experience for all the individuals” (Creswell,
The design followed Glesne’s (2011) outline for a successful interview study. First, convenient, available, and appropriate locations were utilized to conduct such interviews (Glesne, 2011). Choosing a site that was both familiar and accessible allowed for respondents to feel comfortable, which supported building trust and rapport with the participants (Glesne, 2011). Second, semi-structured questions were used, as I preferred an unstructured or conversational discussion, while maintaining focus with some fixed questions. Also, a semi-structured approach is preferred for qualitative research, as it allows for refinement and addition through the process (Glesne, 2011).

Institute Review Board approval was obtained November 6, 2016. A copy of their Informed Consent Letter can be found in Appendix A.

Selection of Participants

Participants were selected from a three-phase process including login data from graduate admissions software, a short survey including an invitation to participate in interviews, and snowball sampling. First, login data for the institution’s graduate admissions software (“Gradmissions,” name changed to protect identification of participants) were reviewed, to identify any faculty who have not recently (from August 12, 2016 – December 6, 2016) logged in to the tool. Gradmissions was selected as a specific technology due to the institution’s business processes, which required the participation of faculty in reviewing graduate admission applications. At the specific institution in this study, faculty members typically teach in both undergraduate and graduate programs. As such, participants should not solely be seen as graduate faculty.
Instead, they were members of the academic faculty residing in units that utilized Gradmissions for their enrollment management needs.

Given the reliance on faculty involvement with Gradmissions inherent in the admissions business process, it was logical to conclude that individuals who did not utilize the tool were at least exhibiting expected laggard behavior – that is, reluctance to adopting the technology. Adoption categories are obviously not stored in any database, and scholarship has yet to develop clear measurements to identify other attributes of late adopter categories (Jahanmir & Lages, 2016). Therefore, it is difficult to identify laggards, especially since individual adoption can be influenced by a number of factors (Hall, Loucks, Rutherford, & Newlove, 1975). In this case, however, non-use of an essential tool (as dictated by the business process and recognized importance of admitting quality applicants) was used as an identifiable characteristic.

Login data was secured through the institution, in partnership with the third-party vendors of the product. The original user list included 1,327 members, from which I eliminated several categories. Individuals presiding in central administration were eliminated as they are often less engaged with their academic functions. Administrative staff, individuals who had view-only access, users lacking functioning emails, and information technology support staff were also trimmed due to their lack of involvement with the graduate admissions process. Finally, those users who had logged in to the software were discarded. The survey was ultimately sent to 703 members of the academic faculty, who are involved in their units’ business process for graduate
admission, but had not logged in to the software in the preceding 116 days. During these 116 days, review of Spring semester applications would have been reviewed.

The survey (Appendix B) was primarily focused on identifying those faculty members who opposed institutional implementation of administrative technologies, indicated a frustration with additional enterprise innovations, or had difficulties learning to use such programs. Questions centered on these aspects of users’ experiences, but also targeted basic demographic information, and career profile. That said the most important objective of the survey was to find willing participants for interviews.

**Research Design & Data Collection Strategies**

Beginning with a broader survey to the entire faculty population, and relying on survey responses for identification as laggards, was considered. However, it was reasoned that faculty laggards who generally opposed, or at the very least had negative attitudes toward enterprise innovations, may show ambivalence to a survey and not respond. The review of login data served as a pre-survey culling method, which allowed for a more targeted survey aimed at the laggard population. Together, the login data and survey generated a more valid list of potential interview participants.

The survey was delivered by email (Appendix C) to those 703 faculty isolated after the login review. Initial questions addressed basic demographic information (i.e., gender, age), career profile (faculty rank, years of service, discipline), and confirmation of their role as evaluator of graduate applications. Subsequent questions explored their involvement in the acquisition and implementation of administrative technologies, their
use of the products, and any desired enhancements. The survey concluded with an invitation to participate in up to two thirty-minute interviews.

The survey yielded 38 responses (response rate of 5.4%), 26 of which were faculty evaluators of graduate admission applications. After receiving only one interview participant through the survey, I used snowballing to find additional participants. Snowball sampling is the method of identifying participants through the references of other participants (Atkinson & Flint, 2001). When referring to other participants within their social connections and professional relationships, there was an assumption that participants would refer others who shared a connection to their original purpose for selection, furnishing suggested participants who fit the research criteria (Berg, 1988). Furthermore, scholarship has recognized snowballing as being an effective method for participant selection when researching groups which are either tricky to identify or difficult to access (Faugier & Sargeant, 1997; Noy, 2008). As previously explained, laggards are both difficult to identify and have a reasonably expected ambivalence to participation, further justifying the use of a snowball sample.

The first interview was conducted on June 15, 2017. Snowballing ultimately generated six interview participants (see Appendix D for invitation email), all of who were confirmed to be on the original survey dissemination list. Although there are not a target number of interview participants that all qualitative research must include, anywhere from six to 12 is considered to be sufficient in most cases, again allowing for variabilities inherent in any study (Guest, Bunce, & Johnson, 2006). The sixth interview was conducted on February 14, 2018, which is noteworthy. Based on the low survey
response rate, as well as the eight months it took to acquire the participation of faculty members, I shortened the second interview to follow-up questions in an email. Both the first interview protocol and second interview follow-up questions are located in the Appendices, E and F respectively.

**Pseudonym Construction**

The second interview also served as member checking, as participants were invited to review the transcript of the first interview. Additionally, participants were given the opportunity to select their own pseudonym, empowering them in addition to protecting their anonymity (Creswell, 2013).

Pseudonym construction is an integral part of qualitative research, and failure to effectively address participants’ aliases can weaken efforts to protect their privacy (Allen & Wiles, 2016). Regrettably, there is scant literature on how to effectively create pseudonyms, although Allen & Wiles (2016) provide several key questions researchers should consider. They acknowledge that pseudonym construction on its own is surface-level, and that appropriate considerations include potentially identifiable words in discussion, as well as whether the alias would remain consistent with the participant’s gender and ethnicity (Allen & Wiles, 2016). Extending beyond just the individuals name, I masked the institution’s name in any interview text. As for gender and ethnicity, I allowed participants to construct their own, without specific instructions one way or the other on preserving cultural and ethnographical attributes (Allen & Wiles, 2016). For any participants who did not choose a pseudonym, I selected one on their behalf,
remaining consistent with their biographical profile. Pseudonyms were restricted to first names only.

Interview questions were semi-structured, affording a focus on general concepts and themes, while also allowing for conversational flow and reflexivity. Structured open-ended questions concentrated on understanding faculty members’ experiences, as well focusing on elements of Rogers’ (2003) diffusion strategies, including knowledge, persuasion, decision, implementation, and confirmation (Malopinsky & Osman, 2006). Questions also included inquiries on resistance types, as previously stated.

**Rapport and Trust**

**Constructing the Simulacrum.** Interviewing has long been the primary method of learning others’ stories and narratives, in an effort to make sense of the human experience (Seidman, 2006). In scholarly research, interviewing is one of the most basic forms of qualitative research (Nunkoosing, 2005; Packer, 2017; Ritchie, Lewis, Nicholls, & Ormston, 2013) and has evolved significantly, along with qualitative research. Denzin (2001) considered the present in the post-experimental era, which moves beyond seeing participants as simply a resource (Seale, 1998). Post-experimental inquiry stresses that interviewing is a social encounter that leads to the construction of data, as opposed to simply collecting it (Holstein & Gubrium, 1995; Rapley, 2001).

I considered the interview as a joint-constructed reality by the participant and myself (Rapley, 2001). This mutual construction not only afforded the attitudes and perspectives of the participants, but also was contingent on my self-awareness and ability to conversationally analyze (Nunkoosing, 2005). Given there are multiple realities
(Lincoln & Guba, 1985), I needed to build a trusting and positive relationship with the participants to fully their local context and culture, and to construct Denzin’s simulacrum. A simulacrum is not a window into, or a mirror of a larger world, but its own world itself (Denzin, 2001). As such, I needed to pay particular attention to rapport and trust, in an effort to build and foster a positive interviewing relationship.

**Rapport.** I began each interview on the premise that both the participant and I were both human beings first and foremost. Therefore, the ability to personally relate to the participant was fundamental, and rapport was my primary goal (Taylor & Bogdan, 1998). Following Taylor & Bogdan’s (1998) definition on how to build rapport, I had to be empathetic, penetrate defenses, and get participants to open up, be seen as “ok” break down fronts, and share in the participant’s experiences and world (Taylor & Bogdan, 1998). Of course, those are all easier said than done.

I favored broader, simplified approaches and strategies aimed at building rapport. Although there is literature regarding techniques for rapport building, when performed, they run the risk of being perceived as not genuine, which contradicts their purpose (Dick, 2014). Accordingly, I employed a broad, social beginning to the relationship, which was made easier based on my familiarity with each participant. I adhered to professional standards, as interviews were conducted in faculty offices on campus, during standard hours of operation. I recognized the local climate, which was evident in my conversations with participants on specific technologies, organizations, and experiences specific to that campus (Taylor & Bogdan, 1998). Finally, I proceeded slowly by asking more difficult questions after rapport had been established (Glesne, 2011).
There are steps, however, researchers can take that incorporate some of these higher-level approaches, and I chose to follow Taylor & Bogdan’s (1998) five primary measures. First, I paid homage to routines, which included choosing a convenient location and a comfortable setting (Glesne, 2011). Second, I established common grounds by sharing personal information on myself, such as explaining my role and confidentiality (Taylor & Bogdan, 1998). I helped people, which meant I did not extend the project (Johnson, 1975) nor did I make it difficult for participants to participate. I also showed humility, in some cases going so far as acting naïve (Taylor & Bogdan, 1998). Finally, I showed interest (Taylor & Bogdan, 1998) by listening to full replies and conversations, both off-topic and on-topic (Glesne, 2011), and mindful of note taking (Dick, 2014).

Through these measures, I was able to establish rapport over time. However, rapport is distinct from trust; although rapport and trust may converge and diverge in the research process (Johnson, 1975), there are numerous historical examples of individuals who could work together, yet kept one another at arm’s length due to trust issues. Trust, like rapport, should be built using simple, broad strategies as opposed to technical steps. Johnson (1975) states very simply that sufficient trust is built by using personal, common sense judgement about what is accomplishable with that individual.

**Trust.** Of course, all of this fails to address one basic truth regarding researchers’ abilities to build rapport and generate trust amongst their participants. Trust, not rapport, is what facilitates participants to tell their stories (Wieder, 2004). Accordingly, there was reliance on my own talent and personal attributes, which were of critical importance to
whether or not participants cooperated (Shaffir, 1991; Taylor & Bogdan 1998). My experience with interviewing, familiarity with the participants, and my passion for “breaking the ice” served as perfect complements to the previously discussed strategies for building rapport and garnering trust. Additionally, I engaged in face-to-face first interviews, which allowed me to pay attention to conversational norms and social aspects (Nandi & Platt, 2017).

**Trustworthiness and Member Checking**

Perhaps obviously, confidentiality is an important aspect of trust, yet is too often glossed over in the form of written consent. Taylor & Bogdan (1998) called attention to the fact that often, written permission is only to participate. However, the goal is for participants to trust the researcher not only to participate, but also to contribute significantly to Denzin’s aforementioned simulacrum (Taylor & Bogdan, 1998). I approached each interview with a personable attitude, engaging in small talk prior to the recorded interview, and sharing personal experiences throughout the conversation (Kolar, Ahmad, Chan, & Erickson, 2015). I also paid close attention to the construction of pseudonyms and other confidential measures, for they are complex and sensitive tasks (Seidman, 2006). I demonstrated to the participants that they were safe to open and reveal personal stories and information (Polkinghorne, 2005).

Given the potentially intense nature of such a close personal relationship, how the relationship begins, and evolves, directly impacts the research (Brenner, 2006). One method I used for rapport, trust, and trustworthiness rationale was member checking, which afforded reflexivity through the process (Brenner, 2006). Reflexivity is a key
strategy for quality control in qualitative research (Berger, 2015). Accounting for the researcher’s values, beliefs, knowledge, and values (Berger, 2015) legitimizes and validates the research (Pillow, 2003). I also shared transcripts of all interview recordings, and allowed for clarifications or elaborations. In doing so, the participant was empowered, and trustworthiness was increased (Brenner, 2006).

I took additional steps in an effort to increase trustworthiness. I was reflexive throughout my personal analysis in terms of organizing and coding (Creswell, 2013), used multiple-session interviews with multiple participants (Glesne, 2011), utilized rich description, and provided negative case analyses (Creswell, 2013). In addition to specific negative case examples, the latter can be found in faculty laggards’ self-perception, which often contradicted their actions. Further discussion is provided in the final two chapters.

**Data Analysis**

The qualitative data gathered during the interview process was collected and analyzed in three stages, following Creswell’s (2013) general contour of data analysis and Evers (2016) categorization of data analysis methods. First, organizing techniques including reading, notetaking, and journaling were employed during the review of data. Second, I performed non-prescribed coding, anchoring themes to research questions. Coding is the process of aggregating the text of the interview transcripts into small categories of information or evidence (Creswell, 2013), referred to as codes. A code is a word or short phrase that summarizes a salient theme capturing the essence of the data (Saldana, 2015).
Coding was performed using a thematic analysis technique, analyzing each piece of data to determine what is at the “core of that code” (Glesne, 2011, p. 187). Two passes of coding revealed 287 comments directly related to participants’ experiences with administrative technologies and what they required to adopt technologies faster. These aspects were at the heart of the research questions. The coding also allowed me to organize pieces of the data into theoretical or descriptive groups, thereby creating a thematic organizational framework for analysis and interpretation (Glesne, 2011).

I collapsed first-pass codes in a second pass to capture the essence of the phenomenon. The second pass also allowed me to refine and sharpen my insights, achieving a higher level of conceptualization (Taylor & Bogdan, 1998). Additionally, the second pass also allowed for reflexivity in the process, and 70 of the 287 coded comments were assigned different codes after further reflection. One first-pass comment was split into two second-pass comments, as they referred to different themes in the same statement. Other first-pass codes were either eliminated to low frequency or folded into another code, while also establishing second-pass subcodes.

These subcodes helped to deepen analytical strength, identifying themes cutting across codes. The second pass yielded 20 codes, a manageable number given Creswell’s (2013) recommendation of not exceeding 25-30 codes. Of these 20 codes, 17 included subcodes. These subcodes were helpful in identifying experiential insights that may fall into different codes based on their context (Creswell, 2013). For example, product inequality was identified as a sub-code that was found in four different codes: adoption, needs, software, and involvement. This helped to form a dual understanding of the
participants’ perspectives. See Appendix G for a detailed list of all codes, subcodes, and their frequency.

I then used Glesne’s (2011) thematic framework approach and reviewed the 20 codes and 52 subcodes holistically. Looking across codes, themes emerged. For example, three of the comments coded Peer Interaction were regarding organizational investment, which connected to comments made that were coded Organizational Impact. Similarly, the quality of the software itself appeared in comments coded Adoption, Software, and Involvement. I identified the most salient themes, not restricted to the original code categories. Each will be discussed in full in Chapter 4.

Second interview data, largely due to the variation in email commentary versus in-person interviewing, were not coded in the same manner as the first interview data were coded. Instead, given the brevity of some of the responses, I drew upon the second interviews, when relevant, to confirm, reiterate, emphasize, or otherwise draw a connection to analysis from the first interview data.

**Phenomenological Analysis**

Any attempt to ascertain the phenomenon of faculty experiences with administrative technologies, is admittedly subjective. Member checking helped to ensure the trustworthiness of the data. Careful review of the data helped to reduce bias as well as ensuring a systematically rigorous analysis of the data, as suggested by Burnard, Gill, Stewart, Treasure, and Chadwick (2008). I have included the aforementioned list of codes and subcodes to better help the reader assess the consistency between the data and my findings (Tong, Sainsbury, & Craig, 2007). Moreover, my theoretical framework and
the notion of researcher as instrument drive my interpretations of the data. It is equally important to review how I chose to present my findings, in an effort to build the reader’s trust in my competence as a researcher (Goldberg & Allen, 2015).

Given the nuances in participants’ experiences, as well as the variability in interpretation, I favor Bevan’s (2014) method of imaginative variation. This method allows for exclusion of non-relevant data and focus on the phenomenon in question (Bevan, 2014). Imaginative variation was not utilized during the actual interviews, but is well suited for analysis, after a more structured collection approach (Bevan, 2014). The aim of the phenomenological narrative is to offer a coherent explanation of participants’ experiences that underlines the phenomenon (Goldberg & Allen, 2015). As such, I present the findings, along with analysis in a narrative description of what participants experienced (Creswell, 2013).

Direct quotes will be used when called for, but only to illustrate a theme, and only within analytic commentary. Goldberg and Allen (2015) summarized the difference between power quotes and proof quotes. The former is used to share the more powerful, if not emotional, comments shared by participants, and are acknowledging the more salient themes from their discussion (Goldberg & Allen, 2015). The latter is used in a more evidentiary manner and is provided to back up analytical commentary. In most cases, this relied on multiple quotes from participants to strengthen the evidence (Goldberg & Allen, 2015).
Role of the Researcher

In qualitative studies researchers collect data through document examination, observations, and interviews (Creswell, 2013). As such, researchers must clearly define their roles (Glesne, 2011). Furthermore, my philosophical perspectives, context, relationships with participants, and my own professional and personal experiences inform this definition. I consider the aforementioned discussions on theoretical and epistemological frameworks sufficient for the philosophical perspectives, but I will provide a summary of my professional experiences and how it relates to the context of my study.

I have spent 13 years as an administrative staff member in higher education, at three different R1 universities. I spent four years in academic advising for student-athletes, and the past nine years have involved enrollment management, graduate program administration, degree certification, and academic affairs. During that time, I participated in several administrative technology implementations, serving as the functional lead for a campus-wide launch of an administrative technology, as well as training faculty end-users on another product. In those experiences, I noticed wide variation as to communication regarding the development of the administrative technology, its adoption and use, as well as user satisfaction.

There was also variation as to the demand for such innovations. In some cases, there was a demonstrable need, either through data, inefficiency, or employee feedback, for an innovation replacing the current process. At other times, there was little to no evidence a change was needed. Of course, there is almost always room for improvement,
but the significant investment was not always seen as justified. These types of innovations and their corresponding investigations, however, are often found in process research (Rogers, 2003).

My position at the time of this research study resided in an academic unit at the research site, where I had worked the last six years. I worked closely with faculty, and witnessed first-hand their frustration with often negative experiences with administrative technologies. These experiences had a profound impact on the origins of my study.

I also had pre-existing professional relationships with each of the participants. This only strengthened the quality of the data, as familiarity with the participants made for a comfortable setting (Glesne, 2011) and enhanced personal discussions (Kolar, Ahmad, Chan, & Erickson, 2015). Additionally, insider research has proven to be effective, as long as measures are taken to strengthen the positives and minimize the weaknesses (Greene, 2014; McDermid, Peters, Jackson, & Daly, 2014). These measures include practicing reflexivity, building rapport and trust, self-disclosure, and confidentiality (McDermid, Peters, Jackson, & Daly, 2014), all of which I present in this study.

As briefly discussed in Chapter One, the institutional setting is a R1 university, ranked in the top 25 of public universities featuring several top-ranked programs (US News & World Report, 2018). Enrollment is approximately 25,000 students, with over 1,500 academic and research faculty members. Although it is important to protect the anonymity of participants, and steps were taken to that effect, it is equally important to provide details of the setting. By furnishing details and descriptions of the setting,
readers can better determine whether the context is conducive for transferability (Shenton, 2004).

**Summary**

This phenomenological study was designed to understand faculty laggards’ experiences and attitudes about administrative technologies, particularly during a diffusion process within their organization. As such, a qualitative approach was warranted (Glesne, 2011). Although descriptive statistics from the survey are provided in the Results chapter, advanced statistical analysis was not conducted.

Faculty members culled from login data were asked to participate in open-ended, semi-structured interviews, as well as snowball additional potential participants. Semi-structured interviews allowed for conversational reflexivity on topics relating to themes of institutionalism and isomorphic pressures, as well as key aspects of Rogers’ (2003) IDT. Interview data was then coded in relation to the research questions and theoretical themes, undergoing multiple passes. The findings of this study are represented in the following chapter.
CHAPTER FOUR

FINDINGS

Preliminary Findings

The 14-question survey was disseminated to potential participants (i.e., the 703 individuals culled from login data), primarily to identify any faculty members willing to participate in interviews. The original plan was to confirm their responses were consistent with laggard perspectives, before inviting them to participate further. However, only one survey respondent (Howard, whose responses did suggest laggard tendencies) expressed a willingness to be interviewed. Howard was then the genesis for additional participants through snowballing.

Although my qualitative study devoted more time to the analysis of data collected through interviews, it was prudent to provide basic summary statistics of the survey results. These statistics are intended to organize and summarize the data for easier comprehension (Colodarci & Cobb, 2014), and I am extracting the most relevant results. Although the survey did include a prompt on their academic discipline, for example, it did not produce any meaningful data for analysis. As mentioned earlier, the survey generated responses from 26 faculty evaluators of graduate applicants. This is an important distinction. Since the logic behind the use of login data as a pre-filtering technique relied on use of the product being a required job function, not logging in suggests the respondent was a laggard. Diffusion research is known for including non-use as laggard behavior (Selwyn, 2003), especially given that the respondents had no choice but to adopt. The following tables present the survey results.
Table 1

Faculty Rank and Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Professor</th>
<th>Associate Professor</th>
<th>Assistant Professor</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Male</td>
<td>12</td>
<td>2</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Not Reported</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Totals (N=26)</td>
<td>19</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2

Opportunities to Share Feedback

<table>
<thead>
<tr>
<th>After the software’s implementation, I had ________ opportunities to share feedback.</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zero</td>
<td>7</td>
</tr>
<tr>
<td>Barely any</td>
<td>9</td>
</tr>
<tr>
<td>Limited</td>
<td>3</td>
</tr>
<tr>
<td>Some</td>
<td>6</td>
</tr>
<tr>
<td>Several</td>
<td>-</td>
</tr>
<tr>
<td>Many</td>
<td>1</td>
</tr>
<tr>
<td>Ample</td>
<td>-</td>
</tr>
<tr>
<td>Total (N=26)</td>
<td>26</td>
</tr>
</tbody>
</table>

Table 3

Impact of Feedback and Frequency of Use

<table>
<thead>
<tr>
<th>Feedback shared with the university ________ results in improvements to the software.</th>
<th>I ________ use these tools.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>8</td>
</tr>
<tr>
<td>Rarely</td>
<td>9</td>
</tr>
<tr>
<td>Occasionally</td>
<td>2</td>
</tr>
<tr>
<td>Sometimes</td>
<td>5</td>
</tr>
<tr>
<td>Often</td>
<td>1</td>
</tr>
<tr>
<td>Regularly</td>
<td>1</td>
</tr>
<tr>
<td>Always</td>
<td>-</td>
</tr>
<tr>
<td>Totals (N=26)</td>
<td>26</td>
</tr>
</tbody>
</table>
Table 4

**Technology Quality and Importance**

<table>
<thead>
<tr>
<th>These technologies/tools are…</th>
<th>…user-friendly.</th>
<th>…an improvement over the previous business process.</th>
<th>…an essential component of my work.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Mostly disagree</td>
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<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Slightly disagree</td>
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<td>3</td>
<td>1</td>
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<td>6</td>
</tr>
<tr>
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</tr>
<tr>
<td>Mostly agree</td>
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<td>3</td>
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</tr>
<tr>
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<td>5</td>
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<tr>
<td>Totals (N=26)</td>
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<td>24*</td>
<td>26</td>
</tr>
</tbody>
</table>

*Note. *=Two participants did not provide a response.

Table 5

**Improvement Priorities**

<table>
<thead>
<tr>
<th></th>
<th>Better instructional documentation</th>
<th>Easier to use</th>
<th>Increased training efforts</th>
<th>Product enhancements and upgrades</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-</td>
<td>-</td>
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<tr>
<td>Very unimportant</td>
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<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Unimportant</td>
<td>2</td>
<td>-</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Neutral</td>
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<td>2</td>
<td>8</td>
<td>12</td>
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<tr>
<td>Important</td>
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<td>6</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Very important</td>
<td>3</td>
<td>7</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Most important</td>
<td>-</td>
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</tr>
<tr>
<td>Totals (N=25*)</td>
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<td>25</td>
</tr>
</tbody>
</table>

*Note. *=One participant did not provide a response.

**Survey Analysis**

Certain themes were useful for understanding context and participants’ pre-interview attitudes and perspectives from the aforementioned quantitative data. Survey
respondents were veteran faculty members (over 80% had 15 years or more of experience, see Table 1), and were two-thirds male (Table 1). (It should be noted that the university’s faculty is over 70% male (citation redacted to protect institutional anonymity).) In their prior experiences with administrative technologies, they were very rarely, if ever, involved with the discussions regarding acquisition of the product, nor their implementation. All but one respondent indicated zero involvement with the decision to purchase the technology, and that one exception responded they had barely any involvement. Over 80% of respondents indicated zero involvement with implementations.

Opportunities to share feedback were a bit more balanced, although over 60% of respondents indicated they had zero or barely any chances to voice feedback (Table 2). Additionally, 65% of respondents revealed they thought their feedback never or rarely resulted in improvements (Table 3). Perhaps ironically, half the respondents submitted that they often, regularly, or always use these products (Table 3), and more than half agreed that they were an essential component of their work (Table 4). Despite these responses, their login data suggested otherwise. This paradox resurfaced in the results from the interviews, and pointed toward laggards’ potential denial of their laggard behavior.

Survey questions aimed at the quality of the technology itself, as well as whether or not the technology was an upgrade over the previous business process, did not reveal anything noteworthy. The one exception is that more than half the respondents disagreed that the technologies were user-friendly (Table 4). Better instructional documentation
was the most pressing improvement needed (Table 5), which was echoed in the interview discussions.

**Participant Profiles**

Table 6 provides an overview of the interview participants’ basic information. I am providing limited, yet relevant, data to protect the participants’ anonymity. Information such as age, ethnicity, years as a faculty member, and academic discipline are not presented.

Table 6

*Interview Participants*

<table>
<thead>
<tr>
<th>Name (Pseudonym)</th>
<th>Gender</th>
<th>Faculty Rank</th>
<th>Length of First Interview</th>
<th>Participation in Second Interview</th>
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<tr>
<td>Howard</td>
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<tr>
<td>Bo</td>
<td>Male</td>
<td>Professor</td>
<td>32:17</td>
<td>In-person</td>
</tr>
<tr>
<td>Marc</td>
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<td>Professor</td>
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<tr>
<td>Tom</td>
<td>Male</td>
<td>Professor</td>
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<td>In-person</td>
</tr>
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<td>Arman</td>
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<td>Professor</td>
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</tr>
<tr>
<td>Jack</td>
<td>Male</td>
<td>Professor</td>
<td>24:42</td>
<td>Email</td>
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</tbody>
</table>

Critical research can too often rely on the “rigid categorization of people” (Alvesson & Skoldberg, 2017, p. 206). However, as Sandelowski (2000) argued on qualitative description, this is a failure in many qualitative studies. This rigid categorization is contrary to the foundations of critical theory, which recognized there are many “ways in which persons are deprived of their liberty” (Bernstein, 2014, p. 35). Accordingly, it was prudent to offer more depth on each participant. After providing such significant discussion of my own epistemological foundations, theoretical
frameworks, as well as context, it stands to reason to present a brief, qualitative
description of each participant. Given my justification for using a critical framework for
an ideologically marginalized population, offering conceptual profiles is equally, if not
more important than providing demographic data.

Furthermore, it is one thing to collect the facts from a participant; it is another to
understand the meaning they attach to those experiences (Sandelowski, 2000). Ponterotto
(2006) agreed about the importance of thick description in qualitative research. Pointing
to the inclusion of psychological characteristics in describing participants, he
acknowledged that intentions and motivations are drivers of the experience (Ponterotto,
2006). This deeper understanding of participants aids in the construction of Denzin’s

I first organized coded comments by participant, and then looked for codes
appearing more frequently than others. This was defined as any code appearing in 10%
or more of all total comments by that participant. I am presenting these brief profiles in
this chapter to better understand each participant.

**Howard.** Howard had been a faculty member for over 25 years. He held various
administrative roles throughout his career, and is actively engaged in a sizable and
successful research program. Early in our conversation, his delivery was restrained and
deliberate. He relaxed through the course of the discussion, and became more passionate
about the topics.

Howard spoke mostly on his frequency of using administrative technologies, the
impact on the organization, and what he wished to see regarding training materials and
autonomy. He recognized his own emphasis on the frequency of use, or infrequency more accurately, then elaborated that the difficulty becomes the learning curve associated with learning, and then re-learning again due to such infrequent use.

Organizational impact seemed to be the topic about which Howard was the most passionate. Although apparent inefficiencies were acknowledged, most of Howard’s discontent was with the impact it had on the employee experience (for both faculty and staff), and the burden it placed on Howard. His disappointment at what he saw was a disruption to positive staff-faculty dynamics, and its subsequent impact on Howard’s increased role in administrative tasks.

Howard did speak more optimistically about what the institution and/or vendor could provide to improve rates of adoption. Related concepts such as a quick reference guide and self-training opportunities were at the center of his wants. He argued strongly for more active learning training sessions, as opposed to the passive, lecture-style trainings he more often encountered. Underlying his comments was the notion of autonomy.

**Bo.** Bo had served as a faculty member for over ten years, but was active in research for ten years prior to that. He did not hold administrative roles. Our conversation had a relaxed feel to the conversation, and he appeared grateful for the opportunity to discuss administrative technologies. He was balanced in his viewpoints, sharing both positive and negative aspects of his experiences.

Bo spoke with an accent, so my transcription of the interview data carefully balanced the spirit of Bo’s comments, verbatim speech, and minor editing of non-relevant
pauses, utterances, and the like. The primary focus of our conversation centered on desired needs, group performance, and involvement. The latter focus included discussion of faculty members’ lack of involvement, and the importance of their participation.

Bo agreed with Howard by echoing the need for more self-training materials, and highlighting the autonomous nature of interactive materials. Bo viewed the quick guide idea with a bit more interactive involvement. In addition to mentioning focus groups as an untapped resource during the design and implementation stages, he placed emphasis on the group experience in training. He understood the knowledge shared amongst organizational members, and acknowledged the power of a group, compared to individual channels of communication and participation.

Bo spoke at length regarding faculty involvement with these innovations. His comments were separated to referring to his own experience and those referring to his views on the importance of said involvement. Particularly, the positive impact it has on adoption. Experientially, Bo had not been involved with these implementations, but that was largely attributed to a lack of clarity as to how and when he could be involved. Despite his own lack of involvement, Bo placed great importance on faculty participation with these innovations.

Marc. Marc had been a faculty member for 15 years. He had not held administrative roles, and was quite clear about disinterest in such positions. He spoke confidently, and was engaging, at many times using humor. Marc occasionally seemed ambivalent to the outcomes of administrative technology innovations, showing a resignation to such issues being out of his control.
Marc spoke mostly on adoption, and his perception that adoption occurred when forced. Interestingly, this perspective meshed with other comments Marc made regarding institutionalism, particularly mimetic pressures. Of all participants, Marc seemed to have the firmest grasp of the institutional setting of higher education, how universities operate within that context, and aspects of leadership.

In addition to having a clear understanding of institutionalism, particularly mimetic pressures, Marc also appreciated the role of leadership present in many of these innovations. He recognized the failure some administrators have made with solely relying on mimicking behavior, but balanced this perspective with the acknowledgement that sometimes you can draw from successful approaches and innovations elsewhere, in an effort to improve one’s own organizational performance.

Marc also recognized the impact institutionalism had on the micro-level of his own adoption. In his tone and manner of delivery, Marc accompanied these statements with a sense of resignation to these facts and insights. Adoption was seen as inevitable due to pressures both organizational and institutional, the latter of which Marc very well understood.

**Tom.** In addition to serving as a faculty member for over 20 years, of all participants Tom was the most active in administrative roles. Throughout his career, Tom served in a number of administrative capacities, and his conversation often toggled between the faculty and administrator perspectives. Tom held a balanced view on his experiences, sympathizing with frustrated faculty members, but also appreciating the
administrative perspective. He provided the briefest answers of all participants, which led to the shortest interview session.

Tom emphasized the organizational impact, in terms of increased administrative steps and subsequent inefficiency, as well as supported Marc’s claims regarding forced adoption. He spent a portion of his interview discussing the impact administrative technologies have had on the organization, in this case Tom’s academic unit. As these innovations have come “predominantly top down,” Tom felt that there were individual and organizational challenges that stemmed from administrative technology implementations.

Although without as much depth as Marc shared on institutionalism, Tom also observed institutional pressures. However, he recognized more coercive pressures when he referred to a recent accounting brouhaha that made media reports. The negative publicity led to the university system installing a new process with enhanced safeguards, which created organizational inefficiencies.

Reiterating what Marc had shared regarding adoption, Tom more explicitly addressed the forced aspect. That said Tom also expressed a relative technological savviness, both individually and organizationally. Tom considered himself technologically proficient, which was consistent with other participants’ comments regarding skill set and abilities.

**Arman.** Arman had been a member of the faculty for over 10 years. He recently stepped into his first administrative role, and discussed the learning process associated
with that transition. He spoke calmly, and generally took a light-hearted view on the matter, often times joking at his own expense.

My interview with Arman centered on adoption, the quality of the technology itself, and peer influence. Of all participants, Arman was most overt regarding his non-use of administrative technologies. Making no excuse, Arman referenced his non-use nine times during our discussion. Four comments were simply stating that he has “never used it,” or in so many words. The other five comments attested to forced adoption, but more from a self-perspective of necessity.

Arman devoted much of his responses to the quality of the technology itself. However, these responses were mixed and difficult to glean meaningful from data. At times, Arman questioned the user-friendliness and effectiveness of administrative technologies, going so far as wondering if it would “ever replace” the original technology or process. At other times, he would praise the technology as “very fantastic” and “unbelievable.” Clearly, this favor of some technologies and disfavor with others speaks to the variation in administrative technologies, their designs, functions, and performance capabilities. More importantly, Arman’s comments can be used as a negative case analysis in regards to trustworthiness.

In his discussions on peer influence, Arman shared Bo’s insights toward the power of group learning. Commenting that he regularly has lunch with a group of other faculty in his research area, he stressed the value of peer interaction and influence, particularly with learning and trust of the administrative technology.
Jack. My last interview was with Jack, who was the most senior of my participants, having been on the faculty for 30 years. He was a veteran administrator, and actively engaged with activities at the university level. Jack was open and honest in his conversation, sharing deep frustration with administrative technologies – both his own frustrations and what he has observed from other faculty members. Our conversation was enjoyable, as despite his negative experiences, he still managed to find a humorous side in many of his responses.

Jack was the most wide-ranging of all the participants, as he shared in-depth insights on five primary topics. Desires and needs for improvement, the software itself, time, adoption, and peer influence were the main topics of discussion.

Of all topics he discussed, Jack highlighted needs the most. Repeating what several of the other participants shared, Jack felt the autonomy and self-training aspects were crucial. In terms of using the tool well, which assumes a training phase, Jack liked it most when he could “do it [him] self.” Favoring flexibility and online resources, Jack supported the devotion of institutional resources to innovations, suggesting administrators “paid a premium to have help.” In-person trainings, however, should be considered more as a supplement to autonomous training resources, not the primary method of training.

Jack spoke at several points about the quality of the administrative technologies. The most salient theme to come from those comments was the size and scope of many of the technologies, often to a detrimental point. Jack viewed some of the functions of the technologies as superfluous, which creates an overwhelming, if not intimidating, tool to access and use.
This administrative abyss cuts into Jack’s most precious commodity, time. More than any other participant, Jack expressed regret over how much time is expended on these products, and how deficient of time he is otherwise. Jack touched on this when he discussed the dissatisfactions of his career. “You expect to have more time thinking, certainly. You expect to have more reflective time.”

Jack also touched on adoption and peer influence. I combined these two in commentary regarding Jack’s insights, as his comments in each category were very much related to one another. Owning to the fact that he’s a “slow adopter,” Jack also referenced times when he did adopt. When he did choose to adopt, it was either because “the alternative was so bad,” or because of the organizational impact. Given that Jack also had an administrative faculty role, he knew others in the organization would look at his adoption. He did not view this in any negative sense, quite the contrary. He understood the value this has to the organization.

**Phenomenological Narrative**

I utilized Creswell’s (2013) suggestions for a phenomenological narrative in providing both textural and structural details. The textural descriptions in this chapter detailed what happened, and the structural described how it happened. I chose an in-depth examination of the phenomenon, resisting the temptation to prescribe to a certain method. Excessive allegiance to any one methodology can undercut the understanding of the phenomenon, and fall short of deeper meaning (Van Manen, 2006). To avoid these pitfalls, I have blended my textural and structural descriptions, within an open narrative, with rich, vivid, and artful descriptions that depict the most salient themes of the
discussions (Elo et al., 2014). This approach aligns with fundamental considerations for a critical theorist (Whittemore, Chase, & Mandle, 2001).

This section provides textural and structural description, blended in an open narrative focused on the underlying themes of faculty laggards’ experiences with administrative technologies, and their perspectives on adoption. They are guided by the two research questions, listed again below:

1) What are the experiences of faculty during the diffusion of an administrative technology?

2) What motivations would encourage faculty to more quickly adopt administrative technologies?

My narrative is organized by themes drawn from Glesne’s (2011) thematic framework analysis. The six primary themes included: Technology Quality, Deprioritizing Inefficient Technologies, Adoption Experience, Training, Organizational Environment, and Engagement. The following narrative discusses each theme further, before concluding with a phenomenological summary.

**Technology Quality.** When confronted with the administrative technology, participants typically found products to be largely non-intuitive, overly complex, and underutilized. Faculty pointed to the lack of intuition inherent in some administrative technologies as primary impedance to adoption. Bo blamed the technologies for being “short the last step,” as he wished for more robust performance. Howard agreed:
I mean, let me put it this way: the things that are the challenges, or that increase the impedance to adoption, or the technology, are not rocket science. But they are the fact that they fall, in many cases, in the non-intuitive category.

Arman also recognized the impact underperforming technologies had on adoption. He shared one account where he wondered whether the new administrative technology would “ever replace” the original tool and process. This doubt of the effectiveness of a technology was illustrated in Howard’s complaints about the inefficiency of one technology in particular. The new tool required several layers of steps before accessing what he needed, in direct contrast to the previous process of accessing a folder stored to his desktop, or opening an attachment via email. He offered a solution:

You still need to have a well-designed piece of software, so places where there are six clicks required to do something as simple as printing out a PDF that you know the first five clicks could be all embedded in behind the one click that says print PDF.

Jack agreed, when he summarized what faculty needed. “Better design, more intuitive software designs.” In sharing these observations and frustrations, participants were able to give insights into the value of an administrative technology’s intuition, and their connection to delayed adoption.

Even with relatively intuitive technologies, which were seen as rare, Tom considered them “clunky.” Arman questioned why they had to be “very complex,” and
Jack admitted to not using “all the bells and whistles.” Faculty considered administrative technologies as unnecessarily complex and lacking intuition, which had an impact on adoption. Furthermore, they observed an increasing complexity in systems, as seen in Tom’s comments on “disparate systems,” and Jack’s mention of “number of misses” contributing to non-adoption of future technologies. Participants expanded on technological complexity and underperformance from a systems view. Tom addressed this by sharing:

The faculty, and probably the staff I would say also, are feeling that they have to learn a new piece of software every two to three months, because there's so many different systems and something’s always being upgraded or changed.

Tom’s sentiment of overly complicated technological systems was also shared by others. Jack called for “an integrated suite” of products, and was more explicit in tying system complexity to slow adoption. “I think the number of misses (or failures) of systems that have been top down…have hurt the overall acceptance of good systems that can really help.” Marc confessed, “I’m not even sure what they’re called, all of them.”

The abundance of administrative technologies was a sentiment that surfaced in other comments regarding training and organizational environment, which are both discussed later in this narrative.

Participants also observed that many of the administrative technologies they’ve experienced were underutilized. As Marc shared, “there are a lot of things in a software like that, that some of that you might not, some of that might not be useful.” Arman
spoke of the aforementioned complexity of the technologies. Jack explained why he had not utilized all the functions of the technology, “I only want a small slice of that information. So how do I get rid of the other stuff?” He added the difficulty in working with such complex tools, “some of it is not intuitive, and some of it is, so you think you’re doing it right, but the reality is you’re not.”

**Deproritizing Inefficient Technologies.** Participants shared a disappointment that administrative technologies did not match up with their functional needs. They focused their disappointment on the fact that the technology was most often designed without their input. Plus the learning and use of the technology, given their infrequency of use, expended too much time.

Faculty experienced little to no involvement in the decision to acquire, implement, and/or design these tools. Tom didn’t “feel like we had any input whatsoever,” whereas Jack gave credit to the institution in thinking “they would like to get faculty input, but…they don’t know how to do it, right?” Regardless, faculty saw an end product designed “without sufficient input from faculty users,” as Howard explained.

Faculty participants lacked time, and tended to de-prioritize tools they rarely used. Discussions on time concentrated on their lack of it, the time it took for training and how to learn to use administrative technologies, as well as the time expended on using the tool. Howard felt strongly that “time is a contributor to perhaps some of my personal challenges or frustrations.” Tom rationalized his non-adoption of one technology solely on the “amount of time I thought it was going to take.” Jack felt that he “spends way too much of my time” on activities that take a “significant amount of time.” Several
participants focused on the time it took to learn to effectively use new technologies as barriers to their adoption of new tools. Despite one technology being “very user-friendly,” Arman said the tool took “a couple of months to learn.” Marc echoed this sentiment saying “technology also comes with learning curves.”

The frustration over the learning curve was amplified given the infrequency of use. “Where certain pieces of technology I use twice a year, and if you’re only going to use a piece of technology twice a year, you don’t remember all the details,” Howard opined. Even Jack, who was commenting on how frequently he used one administrative technology, claimed he used it “maybe ten times a year…between five to ten.” Howard later concluded “there’s no doubt that I have highlighted in my number of my responses the difference between a frequent user and a rare user. So that’s part of it.”

Time and the frequency of use impacted act participants’ ability to prioritize other faculty responsibilities (teaching, research, and service) due to having to expend time to learn, re-learn, or use a complicated tool. For example, Marc expressed frustration over having to “spend a lot of time doing…things that don’t necessarily translate into the advancement of the research directly.” Howard was less diplomatic, and said “in any given day a higher percentage of my time is doing things which quite frankly you do not need a Ph.D. to do.”

Participants felt they were already short on time, and spent too much of it learning tools they would rarely use. As Howard said, “when you’re doing 13 hours a day, the last thing you need to do is to have to go and have another training session.” Tom agreed, adding he experienced “frustration over the learning curve associated with all these
disparate systems.” For participants this frustration was consistent. They talked about the learning curve in using new technology, the inability to retain information when certain technologies were used infrequently, and the lack of new technology aligning with what they saw as their primary responsibilities in their faculty roles.

**Adoption Experience.** In addition to being frustrated with time away from teaching, research, and service, there was a lack of agency in the implementation of new technologies. Participants shared that the adoption of administrative technologies was mostly seen as forced. Arman summarized a sense of resignation to these new technologies mandated by university administration saying, “but if I have to [use new technology], which will happen…then I will learn.” Bo agreed, again echoing a sense of resignation. “Even you like it or not, you need to figure it out,” Bo commented. Marc also accepted this inevitability of adoption, “There you’re basically forced by whatever the university chooses. Right?” Tom summarized this impact on the adoption experience. “I adopt them when they’re rolled out, and then you have to use them. I mean there’s almost no choice, in some sense.”

Marc acknowledged forced adoption can result from institutional coercive pressures, and confirmed the impact of those pressures on adoption. In more professional cases, less bound by the university structures, he commented “so you’re basically stuck using a certain system that’s imposed by a sponsoring agency, and you have to follow that. There’s no point in being creative there, because you have to follow…you have to basically adopt [the technology].”
Regardless of the lack of control participants felt they had over the implementation of technology, they perceived themselves to be very engaged with it once it was available. In fact, perhaps the most unexpected insights drawn from the data analysis centered on faculty perceptions of their own behavior. Most participants seemed to either be in denial of their laggard behavior or provided justifications and rationale for that behavior, if not both. Howard acknowledged that “some folks might regard [dismissing a technology on account of infrequent use] as being a laggard,” before providing justification that he was “somebody who’s extremely busy. I don’t have the time to learn or re-learn that piece of technology twice a year every time I want to come back to it.”

Furthermore, Howard viewed himself as “an innovator” when it came to “well-conceived, well developed technologies that I extensively use.” This tech-savvy mindset – both individually and organizationally – was shared by other participants. Marc boasted about being an innovator with one technology ten years ago. Tom considered himself as tech-savvy, and saw the institution as “very technology-centric.” He added that he and his colleagues “use all kinds of technology.”

Marc provided rationale that sometimes the more traditional techniques, tools, or procedures can be a “good experience.” He felt it allowed one to avoid “uncertainties involved” with new administrative technologies.

When participants did talk about their lack of adoption/engagement with the technology, they critiqued not only the time it took to learn, but the quality of the technology itself. For example, Arman said, “I’m not anti-technology, but I do not
believe in most of these [technologies].” This made sense given he also shared that there are both “negative things” and “bad things” inherent in technology.

Finally, even when they acknowledged that they were not the first to engage with technology, participants did not embrace the notion that they were entirely resistant to it, either. They were not the first, but not the last to adopt these tools. Jack excused the laggard label, but acknowledged his slower rates of adoption than others. “I’m probably not a laggard; I’m definitely not a first adopter.” In addition to the previously discussed concerns about the quality of the technology itself, some participants also explained away their delay in using technology based on their own interest or skill. For example, Jack said he was sometimes slower to adopt technology “because it’s not something that’s natural to me. It’s not inherent; it’s not inherent in me.”

Participants generally viewed adoption as forced, and defended their laggard behavior with justifications and rationales of their non-adoption. Despite the resistance to technology, participants simultaneously proclaimed tech-savviness and technological prowess. Even when they acknowledged a reluctance to adopt technology, they blamed the technology itself or provided other reasoning for their slow, or non-adoption.

**Training.** Much of the participants’ conversation focused on training efforts. They talked about the quality of existing training, as well as what they wished to see from training resources. In short, participants considered current training efforts ineffective, and sought more autonomous / self-training resources. Specifically, the accessibility of resources and a quick, condensed reference guide were mentioned consistently.
**Ineffectiveness.** Training sessions were largely deemed ineffective. Howard talked about being in “training sessions that have crashed and burned.” Participants placed emphasis on time, overcomplicated training sessions, and poor communications. Howard said:

I find that the trainings tend to spend way too much time emphasizing a lot of unimportant things. And by the time you really get to the meat of what should be covered, they've either run out of time or they gloss over at a higher level.

The timing of the sessions was also considered important, from both a scheduling and a timing perspective. Jack favored an autonomous approach, at least in the early stages. “I’m going to jump into the shallow end, and splash around a while, and then say OK, now I’m ready. Now give me the training…you can’t go to a course before you’ve used it.” Marc recognized this as inherent in the today’s context. He explained, “Now in the smartphone generation, people are used to, ‘Yeah let me see how I can connect this first before necessarily looking at the full webinar.’”

The ineffectiveness of training programs led to a dubious view on training resources in more general terms. Some faculty dismissed other training opportunities given their prior experiences. Marc shared his skepticism when he spoke of his response to training announcements.

You're going to go oh no, what is this? I got to go online and try and see how this works now, and read the tutorial, all this kind of stuff, which comes with some overhead…”
So having webinars and these online tools available helps to see what else can you do with it, but then some of the things you don't want to do, so you don't do them, because you only need to do this.

Doubt about the effectiveness of training resources can be tied into adoption, particularly with their participation in training. Marc said that because of his own ability to learn technology:

You probably don’t necessarily always need the full seminar…

Sometimes it's like okay, well what I need to do I could figure it out in 15 minutes, I don't have to look at a 50 minute seminar, right? So sometimes, if it's totally new and transformative, disruptive in a sense that it's a complete change of the mode of operation, I think then you definitely want to engage in those more formal training activities. But if it's more sort of an evolution, then sometimes it's just a matter of OK, you had a previous car and now you bought a new one, right? Now you probably have some idea that this is the Benz, you're probably not going to read the manual, right?

Marc’s comments above connected the idea of self-assessed competence mentioned in the previous section with a resistance to training. Despite being a laggard, Marc and others shared that not only was the training offered bad, but they did not need the training to begin with because of their own expertise. The same viewpoint would also arise with university communications on new technologies.
Compounding the issue of ineffective training programs, participants expressed dissatisfaction with communications surrounding innovations, often being unaware that the new technology even existed. According to participants, communications regarding the innovations were scant. When asked about his satisfaction with communication of the innovations Jack expressed disappointment, “I think I’m very dissatisfied.” Howard added “we end up, we hear about this big roll out” without any communication beforehand. In the end, faculty felt they were unaware of how and when an innovation was being deployed.

In addition to a lack of awareness in general, specifics were often unclear, as well. When discussing the rollout of innovations, Bo expressed his lack of clarity. “I’m not sure is there a specific committee, or something who review the new product, or working on that?” In other words, participants had concerns about what technology was coming out, when it was coming, and who was involved in selecting the technology.

Hinting at the same overconfidence Marc showed regarding being able to “figure it out in 15 minutes,” Arman held nothing back to his own role in the communications process. “I do not pay much attention to the official announcements, to be honest with you.” He added further, “I’m just going to completely ignore it, and worry about it when I really need to worry about it.” Regardless, there is an apparent lack of communication before the innovation is launched.

**Autonomous / Self-Training Resources.** Of all the salient themes to arise from participants’ discussion, the need for autonomous self-training resources was the strongest. Participants acknowledged both the learning effectiveness these resources
would generate, but also more efficient adoption. Howard captured the impact accessible resources would have on learning. He said:

[I] would much rather actually sit with the software and use that, than listen to somebody lecturing to me for two hours...the lecturing is very passive. Whereas if I’m sitting with a keyboard and reading a good, succinct, clear set of instructions, that’s active learning.

Bo echoed Howard’s sentiment from a convenience standpoint. Bo reported that autonomous resources would be better because it was often “easier to just take a look, and then move on. That would be quite useful.” Howard asked for something similar saying, “Give me a good quick steps guide to using a piece of software, for the particular functions.”

The suggestion of a quick reference guide, potentially online and interactive, was frequently mentioned. Howard, Bo, and Marc all explicitly specified a quick reference guide as essential needs. Given the often-specialized functions participants are performing, along with the relative infrequency of use of specific technologies, Marc offered:

I need to have an overview of the capabilities of the software, and I need to know the specific things that I might do with it. But I don't necessarily need to be the expert on that specific technology, every aspect of it I think. Howard agreed, adding:

When we put help functions into software, we typically only put the full blown help functions, and so then in order to utilize help functions, we
almost need to read the Encyclopedia Britannica to try and find what we want.

In addition to an easily accessible quick reference guide, participants wanted university resources available through tutorials, videos, online materials, and other activities they could engage with on their own time. Bo felt strongly that adoption would be improved “If there’s a video and then just one minute or something, quickly show that to you one-two step, step there, and is quite convenient to use.” Again referencing the overreach in design of the products, Bo just wanted to “click a button and sometimes…I just wanted to click up some question.”

**Organizational Environment.** Participants had a strong sense of understanding of their organizational environment. They exhibited an awareness of institutionalism and the pressures it places on the organization. That knowledge informed their concerns about the impact of the institution on the employee experience and interpersonal relationships.

**Viewpoints on Institutionalism.** Participants talked about external pressures on the university. They also talked about the “trickle down” effect of those pressures and how faculty can become conditioned to respond in way dictated by the institution – even if other responses might be more effective. Howard said:

> I feel all of us, and all of our peers are sort of, there's a little bit of a well, they jumped so we should jump, as opposed to saying ‘Well did you notice that they were standing at the top of a 500 foot cliff? Well maybe it's not such a good idea that we jump.’
Jack recognized institutional pressures as well. “[The rapid acquisition of administrative technologies is] much less driven by us, and much more driven by the industry. I think we’re going more in that direction.” Marc, who spoke the most about the institutional setting of higher education, how universities operate within that context, and aspects of leadership, spoke at length on the topic. When discussing when a new model, or tool, first appears on the market, and the tendency for organizational peers to mimic the activities on their own campuses, Marc offered:

If somebody you know has a new model, a new software, a new tool…And then if that starts to show some sign of traction, then everybody else is going to try to be the quickest follower, right? So there are of course the leaders and the followers, of course if you're number one there's nobody to follow… Well each university is going to look at what others are doing, what peers are doing. That's always the first thing that comes up; they're always comparing who's doing what. Right? So that's definitely, peer institution is definitely one of the key role models. Nobody wants to fall behind.

Marc also appreciated the role of leadership in many of these innovations. He recognized the failure some administrators have made by solely relying on mimicking behavior at other institutions:

It's not just as easy as just looking what others are doing, it's maybe also trying to be the one who sets the new trend, rather than being the one who was the quickest follower and then claims it, right? ‘So, yeah, we also had
it over here!’ Yeah that's perhaps, I think in order to be a true leader, you want others to be following you, and not you being the one that's following others, right?

Jack echoed that yielding to institutional pressures involves some risk. “Look, there will be false positives, and you have to be aware of that.” Marc added that sometimes universities can draw from successful approaches and innovations elsewhere, in an effort to improve organizational performance. He said:

But of course, particularly in academia, it's a lot of people that are looking at what others are doing. So hopefully they're not simply copying, which is terrible, but at least taking the best pieces of what works elsewhere and try to make it better perhaps. Rather than just being a cheap knockoff copy.

Participants were also aware of the direct impact these pressures had on their individual administrative roles. Marc justified administrators’ decisions saying, “Somebody in administration, they see more things that they have to get done in an efficient way.” Despite this justification, faculty participants were left somewhat reluctantly hoping new technology would beneficial. As Bo said, “hopefully that’s change for the good.”

One participant, however, saw the sacrifices made for the sake of legitimacy. Arman spoke most on this topic. He viewed many pursuits, including but not limited to administrative technologies, as chasing “a lot of superficial buzz words that don’t mean anything.” In referring to the university’s allocation of resources to its teaching
development center, an otherwise important endeavor, Arman saw it as failing to prioritize more important needs, all for the sake of legitimacy:

But what is funny is… how can we employ some people who are there to improve the quality of teaching - which is a great idea - but we do not have the essential things, which is graders?

Arman’s comments were centered on his disagreement of choosing legitimacy over quality. Marc expressed the same frustration with administrative technologies that “were supposed to be the next big thing, and didn’t even get adopted.”

Participants discussed institutionalism, specifically including, mimetic and coercive pressures. They were clear in understanding how those institutional pressures, and the subsequent decisions by administrators, directly impact their organization, productivity, and interpersonal dynamics.

*Organizational Impact.* Faculty experience focused on the impact of the introduction of new technology to the organization. Faculty shared concerns over the impact on employee experience and the impairment of interpersonal relationships, which had consequences on collaboration and efficiency. This theme also connected to earlier examples of faculty members’ focus on how new technologies impacted them in terms of time and autonomy.

Impact on the individual employee experience was witnessed by the individual and observed in others. While discussing the increased administrative burden, Howard felt “more and more of the responsibility for filling in the form for, chasing down the supporting materials, has fallen to me.” To the point, Tom adds, where it can be a
“challenge just to keep up with the basic functions of your job.” Bo took it one step further. “A lot of time it is quite hurting when your head’s into a screen for a long time. If it’s a huge amount of work, then that’s really not very ergonomic, or very healthy.”

Tom witnessed this burden falling on other organizational members as well. He recognized coercive pressures when he referred to a recent accounting issue that made media reports. The negative publicity led to the university system installing a new process with enhanced safeguards. He mentioned there were “so many levels of redundancy in terms of getting permission, and then tracking, and reporting and stuff, and you know a lot of that seems to be in response, in that example at least, to bad media reports.” He continued, drawing attention to the impact on organizational members. “But it’s forcing a lot of really good people to spend significant parts of their day doing activities in response to a few bad apples.” Howard spoke of those same administrative burdens, and poignantly summarized:

If their relationship has reduced down to fill this in and submit it, to be honest, I don’t consider them to be working with me, and secondly, I sort of don’t feel happy for them or I don’t feel excited that they were part of a team that achieved something. If all they did was forwarded to me and instruct me to fill something in that can’t be a very satisfying job.

Most of Howard’s discontent was with the impact it had on the employee experience (for both faculty and staff), but also advanced on that insight. He was also “frustrated with them because of the erosion of staff faculty and relationship and interactions. That to me is a big part of it.” Participants spoke at length on the impact
innovations had on relationships within the organization. Howard felt that “working with people is important.” Marc shared concerns that it “puts the technological device in between, which sometimes it’s also good the direct conversation, not always having technology in between everything.” Arman agreed, expressing that “human interaction is very, very important.” Arman also added the value of human relationships and performance. When commenting on how successful a new staff member has been, Arman confessed that his “life has changed dramatically,” in large part to the dynamic help the staff member had provided.

In contrast to their confident dismissiveness of training programs, participants exhibited a sincere concern for the impact on the employee experience and interpersonal relationships within the organization. Due to what they viewed as inefficient technologies, the results of innovation were more often seen as a strain on the organization, with their associated learning curves and impact on business processes. This strain has negatively impacted their own employee experience, and they have witnessed the same impact on others, most notably on the quality of relationships within the organization.

**Engagement.** The last theme that emerged from this study focused on faculty engagement during the technology diffusion process. In this case, engagement covered two aspects. First, it included comments made about faculty members’ involvement in the design and implementation process, and second, interpersonal engagement. Particular focus was placed on participants’ relationships with their peers, and how they communicated regarding the innovation.
As discussed earlier, faculty members were not typically involved in the design and implementation of administrative technologies. Faculty members were often completely unaware of opportunities for involvement, or even when they were aware of these technologies, faculty members were unsure of how or when they could get involved in their creation or use. Arman said, “I haven’t been really involved in [technology design or implementation].”

This was consistent with other participants who said they did not have input in these programs, changes, and implementation related to administrative technology. Participants viewed their involvement as necessary based on, as Bo put it, “appropriate lifecycle management of the tool.” Meaning, user engagement with the entire diffusion process, from concept to implementation, was necessary to ensure a quality product and efficient use. Participants especially highlighted the idea that it is difficult to determine the administrative technology that faculty need without involving faculty in the technology selection process. Bo asked, “how did [the administration] get engaged to define what function we want?” Howard raised the same issue, saying “There needs to be a broader engagement of faculty in, as I said, going right back to the planning and design phase… there’s that disconnect sometimes between when we engage and get the initial faculty input.”

The lack of involvement was consistently tied in to the impact it had on the quality of the technology. Howard added, “A lot of those [design] issues could be avoided if there was more faculty engagement in the planning stage.” Bo agreed, concluding, “You need faculty involvement.”
Perhaps paradoxically, however, faculty did not express a strong interest in being directly involved in the technology selection, development, or implementation. They were not overly enthusiastic about their own involvement, but stressed the importance of faculty inclusion, particularly during the design stage. Arman exemplified this saying, “I’m not saying these things are not important, and sometimes I participate. Maybe I should participate more.” Howard agreed when he acknowledged he did not “have to be personally involved in the development of every piece of technology that I have to use. Not at all.”

In addition to the potential for improved design, participants recognized the subsequent value their involvement would have on adoption. Marc admitted that if better designed technologies were pursued, “then yes, I can see myself adopting additional administrative technology.” Bo suggested faculty involvement would also lead to “more buy-in later on when implementation.” He suggested that a focus group, or committee, would benefit the use of technology by faculty in two ways: “you can get more diverse input, and then second, you can get buy-in.” This reinforced earlier findings related to peer influence, and the power of group learning.

Participants recognized the impact peer influence had on their own adoption experiences. Howard provided a negative case analysis when he indicated a tendency to be his “own evaluator.” Otherwise, most of the other participants discussed the role of peers. Bo saw the value in the ability of his peer network to “quickly exchange, and share experiences.” The peer exchange as it related to administrative technology was something participants came to depend on. Tom was fully “expecting to get questions
from some of my colleagues.” This was in part due to his administrative role, but also
due to the frequency of peer exchanges regarding technology innovations. According to
Marc, faculty recognized “the transition experience is facilitated in many ways by having
also talking to colleagues who have done it before.” Bo felt peer exchanges “can reduce
the learning speed dramatically. So having a peer exchange is always very good.”

Jack agreed, adding “Let’s get someone whose experiences I know, have them
understand the tool, and then be able to explain to me. ‘No Jack, this is what you want.
Don’t worry about all that, you know, all that other stuff.’” Participants wanted
accessible colleagues who could talk them through situations and questions as they arose,
rather than training that they might forget when actually using the administrative
technologies.

Beyond accessibility of peers, the participants also valued the trust they had in
colleagues. The common experiences they had as faculty members, and their familiarity
with each other, made participants more confident in their peers’ ability to help when
issues arose with technology. Jack also highlighted the value of having a set of trusted
peers in these situations:

I’ll go to people that I know I trust, right? I’ll look at do I know this is
someone, you know, when they all say “oh my goodness, this tool sucks.”
Do they say that about everything? Or is this one [that] if you stick with it
you could do [learn the technology]. So, I sort of have calibrated the
people that I will ask for [help].
Arman echoed this sentiment, saying “You hear people tell you ‘Ok, these are negatives, positives’,” and that “you learn from me, but I learn from you as well.” This exchange based on preexisting relationships and trust was helpful to participants. The connections made them more likely to ask for these colleagues for help.

Jack also appreciated peer influence from an organizational investment perspective. As an administrator, Jack consciously “decided to not be a laggard and adopt [a given technology].” His role as an administrator drove his decision. “People will look and say, ‘Well Jack’s name is there, therefore…” He understood that he could play a role and that being a resource not only helped individuals, but increased the adoption rates within the organization.

**Summary of Phenomenon**

In this chapter, I presented background preliminary results, participant profiles and background, and a narrative summary of the phenomenon. I provided an open narrative using imaginative variation (Bevan, 2014) and chose an artful presentation not bound to the limitations of any one methodology (Van Manen, 2006). I used both power quotes to demonstrate the more emotional and powerful commentary, as well as proof quotes as evidence for my thematic analysis (Goldberg & Allen, 2015).

The phenomenon included six primary themes: Technology Quality, Deprioritizing Inefficient Technologies, Adoption Experience, Training, Organizational Environment, and Engagement. The discussion heretofore has centered on thematic descriptions, using participants’ experiences as primary evidence. Chapter 5 explores the
phenomenon deeper by connecting it to literature and further analyzing the phenomenon to provide recommendations for scholars and practitioners.
CHAPTER FIVE
DISCUSSION

Introduction

Before interpreting the findings, it is helpful to provide an overview of how the discussion is organized (Lunenburg & Irby, 2008). I provide a brief summary of the study and phenomenon before offering a discussion of the findings. The summary provides a review of the study, theoretical framework, research questions, and brief summary of findings.

This final chapter does not simply summarize the findings, nor restrict the theoretical frameworks to merely context, which are both mistakes made often by novice researchers (Casanave & Li, 2015). Instead, I addressed the research questions with evidence from the findings, through a theoretical lens that acknowledged extant scholarship (Cottrell & McKenzie, 2010) and was connected to my study. To that end, the discussion of findings section of this chapter provides theoretical support for my interpretation of the results (Bloomberg & Volpe, 2012). Following the discussion, I will offer recommendations for future research and practice, before ending with a conclusion.

Summary of the Study

My study investigated university faculty members’ experiences with administrative technologies, in an effort to better understand faculty adoption, particularly the resistance demonstrated by faculty laggards. Administrative technologies were defined as distinct from learning or pedagogical technologies, and were instead
innovations designed to improve core organizational processes through a change process (Stam & Stanton, 2010).

Pursuit of such innovations within higher education has been despite a lack of empirical evidence of the effectiveness of such innovations (Anderson et al., 2003). Universities have pursued administrative technologies, while been influenced by institutional pressures, namely mimetic pressures. These pressures are akin to organizational peer pressure, and higher educational organizations move forward with administrative technology innovation despite often times lacking clear rationale (Meyer & Rowan, 1977; Suchman, 1995). My first research question was designed to explore and understand the impact of technology innovations:

1) What are the experiences of faculty during the diffusion of an administrative technology?

Innovation of diffusion theory, or IDT, offered its own contradictions. IDT positions laggards as typically lacking the technical wherewithal, or having limited resources, to facilitate adoption (Rogers, 2003). Faculty, however, demonstrate such proficiency in other arenas of their profession, including their own classrooms. This provoked inquiry of faculty explanations of non-adoption, as well as what they needed for increased adoption rates. My second research question aimed to gain a better understanding of faculty adoption, as IDT did not provide sufficient theoretical explanation:
2) What motivations would encourage faculty to more quickly adopt administrative technologies?

My study was conducted through a critical epistemological framework, based on the marginalization of faculty laggards and my efforts to emancipate their voices. Foucault (1980) illuminated how tasks and power structures, which lie at the heart of administrative technologies, can further ostracize individuals. Rogers (2003) pointed out that laggards, despite being an important audience in the diffusion process, were often ignored, making them an appropriate population for critical study (Henry, 2006). A critical framework was also suitable given the dearth of contrapuntal literature surrounding technology innovations, as well as within institutional scholarship. Contrapuntality is the establishment of a counter narrative to dominant discourse, and can be used as a check of balance to power (Ashcroft & Ahluwalia, 2001). Scott (2008) and Selwyn (2011) wrote about the limited critical research in technology innovation. Other scholars, such as Gonzales (2012), have called for richer examination of the faculty experience, also consistent with the goals of this study. Additional discussion of the critical framework was provided in earlier chapters.

The purpose and significance of the study was to address the aforementioned gaps in the body of knowledge, as well as work toward producing a roadmap for managers (Suchman, 1995). Ineffective innovations can lead to unintended consequences causing financial, social, and performance failures (Rogers, 2003). Rogers (2003) advised tailoring diffusion to laggards. If understanding of laggards’ experiences is increased,
higher education managers can improve their diffusion process by more effectively tailoring their communication strategies.

Methodologically, I conducted semi-structured, open ended interviews with participants who were selected through a three-stage process – administrative technology login, completion of a short survey, and snowballing. Data collected from interviews were coded and subcodes identified to help with conducting a thematic analysis (Glesne, 2011). Six primary themes emerged: Technology Quality, Deprioritizing Inefficient Technologies, Adoption Experience, Training, Organizational Environment, and Engagement.

I presented the results in a phenomenological narrative, including textural and structural descriptions (Creswell, 2013). The phenomenon was explained using the six phenomenological themes, which helped to organize the essence of faculty laggards’ experiences.

**Discussion of the Findings**

To help frame the discussion, I am restating my two research questions:

1) What are the experiences of faculty during the diffusion of an administrative technology?

2) What motivations would encourage faculty to more quickly adopt administrative technologies?

Similar to my use of Glesne’s (2011) thematic analysis to analyze the codes and subcodes, I employed a similar strategy for framing the discussion section. Instead of
simply restricting my discussion within themes, I cut across the six primary phenomenological themes, and maintained the discussion’s focus on the research questions. As such, each question is discussed separately as a frame for the discussion, drawing elements from all themes.

**Faculty Laggard Experiences during Innovation.** Discussion of the first research question utilizes both institutionalism and IDT as theoretical lenses, whereas the second question, on adoption motivators, is more reliant on IDT.

**Institutional Role of Faculty Laggards’ Experiences.** Participants were aware of their institutional environment and the organizational pressures inherent in the business of higher education. This is important, as social context is necessary to draw full meaning from participants’ experiences (Fossey, Harvey, McDermott, & Davidson, 2002). Participants were fairly dissatisfied with their experiences with the administrative technologies, viewing the innovations as “an increasing frustration,” “very complex,” and “poorly developed.” More importantly, they recognized the influence behind the innovations as “superficial,” “driven by industry,” and “what the industry is doing.”

Within this context, participants often expressed a sense of resignation. They viewed institutional influence as “the way business in universities has evolved,” and observed peer institutions as “key role models.” Participants’ awareness and consent of institutional influence on the organization is not new to institutional theory. Friedland and Alford (1991) recognized institutionalism’s influence on individual behavior in their development of institutional logics. Thornton and Ocasio (2008) went further, and
suggested individuals draw meaning and behavioral rationale from their institutional context. Similar research has continued to evolve, and more recent authors, such as Bevort and Suddaby (2016) consider individuals as the owners of their own experience within institutionalism.

However, what is most often inherent in these individual-centric viewpoints is the notion of human agency within institutionalism. Kraatz & Block (2008) discussed how individual choices and innovations actually drive institutionalism, and not the other way around. Lammers, Garcia, Putnam, & Mumby (2014), witnessed the same in their development of institutional work, which refers to individuals’ purposeful and rational efforts to disrupt the institution, while progressing the institutional setting.

Findings from this study suggested an alternate experience. Participants’ aforementioned sense of resignation stemmed from zero involvement in the design and implementation of such technologies. Feeling like they lacked agency in the process poses an intriguing contradiction to previous scholars’ work. Although participants were aware of their institutional environment, and its impact on their organization, they were deficient in the ability to enact change from within the organization. Reasonably, this led to frustration amongst participants and unsatisfactory adoption experiences. To discuss participants’ change agency further, particularly how it relates to faculty laggard experiences, I now turn to innovation diffusion theory for a richer explanation.

**IDT Discussion of Faculty Laggards’ Experiences.** Participants recognized an active peer network, which is used to “quickly exchange, and share experiences” (Bo), and recognized that “the transition experience is facilitated” (Marc) by peer exchange.
They discussed the trustworthiness that comes from familiarity with one’s peers. There was an inherent expectation amongst participants that colleagues would inquire and exchange about an innovation with one another, which contributed both to the awareness of the innovation and useful feedback.

Although active and engaged, peer networks were typically homophilous. Homophily refers to the relative similarities between two interacting individuals; heterophily is the opposite, where two individuals are relatively different in certain attributes, education, and social status (Rogers, 2003). This finding is consistent with other works that observed homophily in faculty peer networks, such as Belle, Smith-Doerr, and O’Brien (2014), and Helmer, Schottdorf, Neef, and Battaglia (2017). Given the homophily of the sample, and the shared themes of participants’ discussions, the logical conclusion is that their faculty laggard peer networks are indeed homophilous.

While this homophily was advantageous when snowball sampling, it does raise a challenge given participants’ reliance on peer exchange as a facilitator of diffusion. Many scholars have acknowledged the limitations homophilous networks place on diffusion (Centola, 2015; Harris, Weisberger, Silver, & Macinko, 2015; Muller & Peres, 2018; Rogers, 2003). Diffusion, while spreading through one peer network, does not necessarily spread evenly through the organization. Centola’s (2015) work in particular highlighted that the stronger a network’s homophily, the more restricted it is from the rest of the system. As such, the faculty peer networks, although vibrant, serve as a counter to innovation diffusion, by limiting the spread of communication through the organization.
In this case, the university appeared to do little to promote a heterophilous communications approach. Participants felt communication from the university on administrative technology innovations was lacking or unclear. Compounding the issue was participants’ experience of consciously or unconsciously ignoring the messages. The result was individuals hearing about the innovation either too late, or from within their homophilous network.

While it is more difficult to effectively utilize heterophilous networks, their positive relationship with effective diffusion cannot be understated (Rogers, 2003). Heterophilous networks typically provide better information and more resources (Aten, DiRenzo, & Shatnawi, 2017), thereby facilitating diffusion of an innovation more efficiently. As participants shared, however, they were “very dissatisfied” (Jack) with the communications surrounding administrative technologies, and although appreciative of the institution’s efforts, unhappy with the available resources. Additionally, they demanded faculty involvement, which would provide greater access (Aten, DiRenzo, & Shatnawi, 2017) to opportunities to exchange with others outside their homophilous network.

These missed opportunities are helpful to provide context for recommendations. Universities seem to have an opportunity to help promote heterophilous systems by engaging with faculty during communications, development, and training of the product. Given that such a measure, if effective, would advance organizational and institutional systems, I utilized this context in my recommendations.
**Motivations for Faster Adoption.** IDT suggests individuals perceive five attributes of innovations, and these attributes can be used to predict adoption (Rogers, 2003). They include: relative advantage, compatibility, complexity, observability, and trialability (Moore & Benbasat, 1991; Rogers, 2003). Of these five attributes, only relative advantage could be seen as part of the innovations participants in this study experienced. Participants experienced these innovations as incongruous with their needs (therefore rejecting compatibility) and overly complex (complexity). Participants were often unaware of the innovation’s development until the product was launched (observability) and were not involved in the design or testing of the technology (trialability). Instead, participants would be left to base their adoption on one predictor, the relative advantage of the product. This was evident in Marc’s comment, “when I see I can save time with it, or it has some other benefits to it, in a sense makes me more efficient, or in many ways in terms of getting the work done.” However, as Sahin (2006) found, if the innovation is deemed as incompatible, it is difficult to claim relative advantage. Participants did not appear to hold any of Rogers (2003) perceived attributes during adoption, and the university made little effort to attend to any of the five attributes.

Additional aspects of IDT should also be considered. In addition to perceived attributes, the rate of adoption is also predicated on the innovation-decision process, the nature of communication channels, nature of the social system, and the role of change agents (Rogers, 2003). I utilized these stages as frames for further analysis of faculty laggard adoption.
The innovation-decision process has five main steps: knowledge, persuasion, decision, implementation, and confirmation. These represent the stages in which individuals make their decisions regarding adoption (Henderson, Dancy, & Niewiadomska-Bugaj, 2012). Knowledge is when an individual becomes aware of an innovation. Persuasion is the forming of a favorable or unfavorable opinion on the technology. Decision is engaging in activities that lead to adoption. Implementation is when the technology is put to use, and confirmation is when an individual reinforces, or rejects the technology.

Of interest to these faculty experiences is the fact that in many cases they heard about the innovation upon launch of the product. Participants suggested that currently for faculty, their knowledge stage is simultaneous with the other four stages. This condensing of the process into one moment does not bode well for adoption, as the length of time needed for the innovation-decision process varies based on contributing factors and circumstances (Scott & McGuire, 2017). If these innovations are a result of overt alignment within the university, the university could improve adoption rates by affording more time to the innovation-decision process, as well as engagement with faculty at various stages of development. Most importantly, the university would benefit from improved communications, to break through the aforementioned homophilous networks.

Communication channels are important in the innovation process. They help to understand that communications results from sources, who originate the message, and through channels, which are the conduits of communication (Rogers, 2003). These channels can be mass media and interpersonal (Scott & McGuire, 2017), the latter being a
more effective channel to influence adoption. What is unique to the faculty experience is that in their case, the source is not connected to the primary interpersonal channels. The university may send a message out via mass media channels, but faculty either ignore them or lack the time to attend a training session.

That said there is considerable evidence of strong interpersonal channels amongst faculty. Several participants spoke of the role peer influence had on their, as well as others’ adoption. Furthermore, participants acknowledged the value of knowing their peers, understanding their biases, and trusting their feedback. These values are consistent with peer influence aspects of IDT, which indicates peer channels are the most effective communication channels in promoting adoption (Scott & McGuire, 2017).

The social system is the set of interrelated units engaged in pursuit of a common goal (Rogers, 2003), but not as essential to this discussion. Since the administrative technologies faculty face will be through the same social system, the social system variable is not as adjustable as the others, such as the innovation-decision process and communication channels. Rogers (2003) defined diffusion as the process of an innovation communicated through a social system. So it is more reasonable to focus discussion on the modifiable aspects of faculty adoption, that is, how the innovation is communicated.

Change agents are organizational members who play a role in the development of technologies while influencing others’ adoption (Volberda, Van Den Bosch, & Mihalache, 2014). They have also been described as linkers, as they are connected to the resource system, provide expertise on the innovation, and have access to the intended
audience (Rogers, 2003). Participants of this study did not appear to recognize existing change agents in their experiences, at least not of the formal sense. While they acknowledged the peer influence aspect, which is one of the change agent’s purposes, those more informal agents would typically lack access to the central resource and were not likely involved in the development of said innovation. Even when Jack consciously decided on adopting early in an effort to influence his own peers, he lacked the accessibility and involvement in the project.

Volberda, Van Den Bosch, & Mihalache (2014) stressed how impactful change agents are on the communication process and eventual adoption rates. Moreover, they highlighted the need for both external and internal change agents, for successful innovations (Volberda, Van Den Bosch, & Mihalache, 2014). Regardless of the effectiveness or ineffectiveness of the external change agents, participants were acutely aware of them. Participants understood the institutional pressures placed by peers and agencies, as well as the organizational “top down” decision-making. What participants lacked, however, were internal change agents.

In summary, the university did not attend to the five perceived IDT attributes, nor did they utilize existing communication channels in an effective way. There were no change agents to help influence adoption. In short, faculty members received ineffective communications, were engaged with the project too late, and lacked formal internal agency to facilitate adoption.

Participants provided recommendations that pertained to these deficiencies. Arman acknowledged the power of group learning, while Jack valued the familiarity with
individuals that produced trustworthy feedback. Bo suggested committees or working
groups that could help develop an innovation. Clearly, the peer networks are an untapped
resource in administrative technology innovation.

Furthermore, faculty spoke at great length on their need for involvement, to not
only produce a better technology, but also to generate buy-in within the organization.
The assumption is communication from the university would accompany opportunities
for earlier engagement, thereby improving the communication efforts. Change agents,
however, were lacking to help facilitate the innovation through the organization. Even
with potentially enhanced communication strategies, participants need a formal change
agent to help facilitate the innovation through their organization.

Therefore, universities can increase their adoption rates of administrative
technologies by offering three motivations for faculty engagement. Administrators
should involve faculty earlier in the diffusion process, establish formal change agents,
and capitalize on the strength of existing peer relationships. These strategies serve as the
basis for my forthcoming recommendations for both the scholar and practitioner.

**Recommendations for Research**

My study serves as a useful contribution to the scholarly body of knowledge by
investigating laggards, who are often ignored in the research (Rogers, 2003). This
contribution works toward filling a void in critical research in both institutionalism and
technology in education, responding to calls made by several authors. I attempted to
ascertain more of an understanding of the faculty laggard experience, as well as what
would motivate them to adopt quicker. Regarding the former, data and analysis revealed
that faculty laggards’ experiences were fairly negative, due to ineffective technologies, incompatibility with faculty functions, time associated with the learning curve, and lack of involvement in the development process. As for the latter, faculty would adopt faster if they were engaged in the design of the process, therefore producing more effective technologies and ensuring compatibility with their roles. Furthermore, more autonomous training resources and the establishment of formal change agents would spur adoption as well.

However, my study also raised new questions, appropriate for scholarship. A helpful starting point was to review the limitations of my study, to reexamine them in light of analysis and discussion, and apply them again with more sophistication.

**Research Limitations.** Before commencing the study, I knew it would be difficult to identify laggards, which proved to be the case. While confident in the methodological measures taken to access the population, the low survey response rate and the difficulty in scheduling interviews with faculty laggards supported my assumption. Laggards are difficult to identify, and research on the matter is deficient. Recent works have reflected the difficulty of identifying laggards as well. Kearl (2016) overtly discussed the subjectivity of the term laggard in his review of how the term was historically used within a special education context. Other authors, such as Rusek, Starkova, Chytry, and Bilek (2017) relied on simplified identification tools, such as tying the definition into one survey question. Future research should explore more sophisticated laggard sampling techniques, which can be used for more robust
quantitative analyses. An important research priority is a clearer definition of laggards, with improved methods of identifying and learning about this population.

The singular setting was also a limitation, even more so with the participants all coming from one academic unit on campus. While this single unit proved instrumental in the aforementioned theoretical discussion of homophily, it does deepen the limitation of a singular setting. Future studies should expand beyond the boundaries of this setting. While research spanning multiple universities and various institutional types would be warranted, I recommend future studies examine faculty adoption from a university level. The knowledge gained from my study can be tested and refined by examining this phenomenon across various academic disciplines (i.e., other potentially homophilous networks), genders, and organizational structures.

Similarly, another limitation was that all participants were full professors. Future studies should explore other ranks of faculty, particularly in terms of their engagement, agency, and perspectives on training resources. Attention to demographic (i.e. age, gender) is less important, as age and gender are a secondary adoption factor, if a factor at all (Tarhini, Hone, & Liu, 2014).

The last limitation was the use of a critical epistemological framework. I do not defend that choice here, as I have already provided sufficient justification for its use. I do, however, advocate strongly for scholars to continue using a critical framework to examine technology innovation in education. There is an imbalance of pursuit of administrative technologies versus the empirical understanding of their effectiveness, or how to improve their diffusion (Anderson et al., 2003; Selwyn, 2011). Until that
imbalance is more properly restored, I favor a more critical approach. I would also support the use of critical theory across other marginalized populations more traditionally consistent with critical studies. Increased understanding of all individuals’ experiences would contribute to knowledge of heterophilous organizations, and how to increase adoption rates.

**Implications for Future Research.** As discussed earlier, I chose a theoretical framework that blended a macro-level theory (institutionalism) and a micro-level theory (IDT). Greenwood & Hinings (1996) recognized the need to supplement institutionalism with a micro-level theory to fully understand the individual experience, and therefore variations in change (Greenwood & Hinings, 1996). After suggesting that diffusion and adoption studies were a prime area of investigation for such a theoretical blend, the authors would later went on to recognize the impact internal dynamics and actions would have in reverse on the institution. In short, institutional evolution would be dependent on the organizational adoption and performance during diffusion processes (Greenwood, Hinings, & Jennings, 2015). Powell & Colyvas (2008) expanded on this aspect of micro-level blending with institutionalism and witnessed that individual actions and institutional logic are connected. I followed this theoretical path in framing my study. However, in light of the importance of change agency in improving the faculty laggard experience, as well as faster adoption rates, future studies of faculty laggards and adoption should consider institutional logic as a theoretical framework. Thornton, Ocasio, and Lounsbury (2012) suggested institutional logic for analyzing the interrelationships between individuals, organizations, and institutions within a social
system, making it suitable for future investigations similar to this study. Furthermore, institutional logic would respond to recent calls in adoption scholarship. In their study of organizations adopting corporate governance practices, Geng, Yoshikawa, and Colnan (2016) suggested exploring the influence change agents have on external forces during adoption practices.

Future studies could explore the role of change agents in the organization, and how they particularly relate to faculty adoption of administrative technologies. Examinations could utilize institutional logic in measuring faculty contributions to administration (e.g. design, feedback), and their effectiveness. Such measurements could be either quantitative, perhaps assessing adoption rates after contributions are made, or qualitative, such as continued exploration of faculty laggard experiences.

Other potential lines of research include exploring the role change agents play in faculty laggard adoption. Future studies could compare adoption between two academic units using different models of change agents. I suggest deeper examination of homophilous peer networks when engaged with change agents, both formal and informal. I also recommend research questions that explore the difference in adoption rates between homophilous and heterophilous faculty peer networks. The insertion of change agents to these questions would also be appropriate. Findings from these investigations would produce valuable insights for university administrators as they attempt to improve faculty adoption of administrative technologies.
Recommendations for Practice

One goal of my study was to contribute to the knowledge of laggards’ adoption of administrative technologies, so higher education managers could better construct a blueprint, or roadmap for effective innovation (Suchman, 1995). While the results and analysis did not yield such a map, it did highlight the importance of faculty engagement in any eventual construction of a navigational guide. Participants’ suggestions and the value they put on faculty involvement in the process are worthy of further exploration, ideally incorporated into practice.

Faculty demanded involvement with the development of innovations, although they do not necessarily want to be involved themselves. This is in large part due to the time commitment and prioritization of other aspects of their role as a faculty member. As Marc stated, “you have on one hand the teaching side of things, and the other hand you have the research side of things, you have the service side of things, and you have to balance that.” Additionally, there is often a lack of clarity to how, or when, a faculty member could get engaged with the diffusion process.

Although mass media communications (Rogers, 2003) were not effectively utilized during the diffusion process, participants did discuss at length how communicative they were with their peers, specifically in exchanging about innovation, their experiences, and influence on adoption. Clearly, the peer network and its interpersonal channels of communication are untapped resources in innovation diffusion amongst faculty, and were discussed accordingly earlier. Despite the presence of informal peer communication, there were not any formal channels outside of the single, largely
ineffective connection to mass media communication sources. As discussed earlier, universities would benefit from establishing formal change agents to facilitate diffusion of innovations, while also working toward heterophily.

I am providing two recommendations for practice. The first, and most straightforward, is the recommendation that administrators develop quick reference guides that are available for autonomous reference and use; ideally, faculty would be involved in that endeavor. Faculty were clear in the importance of their involvement, to not only improve the quality of the product, but to increase buy-in as well. Participants wished for an easily accessible quick reference guide, tailored to faculty members’ specific functions. Future administrative technology innovations should devote more resources to autonomous / self-training resources.

The second recommendation is that academic units (i.e., departmental, college, university-wide) establish faculty standing committees on innovation. These committees would serve as the official conduits of communication during the development and diffusion processes, would provide a continual feedback channel, and would ensure faculty involvement. Given this would be additional work outside of traditional faculty responsibilities, I would recommend there be an incentive provided to faculty who serve in this role. By establishing a standing faculty committee, individuals who serve will receive credit toward service, a requirement of most faculty roles. These innovation committees would also serve as the formal change agents Rogers (2003) suggests, and would work with their peers, utilizing their own homophilous networks to spread communication and increase adoption rates.
Innovation committees have only been lightly explored in the literature, but there have been contributions made. Martelli et al. (2015) offered the limitation of slow-decision making when using innovation committees. This would most likely be a limitation in higher education, which already is highly bureaucratic (Kezar, Chambers, & Burkhardt, 2015). Second, Callagher and Smith (2017) recommended any establishment of an innovation committee should come with clear instructions and guidance as to the committee’s role and scope. As such, if innovation committees are installed to facilitate faculty adoption, universities should provide a structure that outlines the committee’s role and engagement.

Conclusion

My study investigated faculty laggards and their experiences with administrative technologies, in an effort to understand what would motivate them to adopt quicker. Through open-ended interviews, I spoke with six participants on their experiences and concerns regarding administrative technologies. I employed a critical epistemological framework, and utilized institutionalism and innovation diffusion theory as theoretical constructs. I aimed to amplify the voices of a hitherto ignored population, faculty laggards, and weaved their insights into a phenomenological narrative.

Data analysis and discussion yielded aspects of the phenomenon intriguing for future study, as well as ideas for practice. Faculty laggards provided justifications for their non-adoption, whether verifiable or perceived, but demand involvement in the innovation process. They relied heavily on peer exchange to facilitate their adoption experience, often despite the lack of formal communication channels outside their
informal homophilous connections. Universities can engage with faculty earlier in the process, as well as capitalize on the strength of their existing peer networks. For practice, the primary recommendation was to establish faculty standing innovation committees, providing useful benefits for the organization and incentive for the faculty member. A secondary recommendation centered on autonomous training resources, particularly a quick reference guide.

As for research recommendations, I recommend incorporating institutional logic as a theoretical frame in future studies of faculty laggards and administrative technologies. The exploration of change agents and homophilous peer networks would be particularly useful in better understanding how to improve faculty adoption. I recommend a clarification on defining laggards, as well as how they can be identified, and encourage continued use of a critical framework. Lastly, if the practical recommendations are implemented, research should be conducted to measure the effectiveness of innovation committees and autonomous / self-training resources.
APPENDICES
Appendix A

IRB Informed Consent Letter

Information about Being in a Research Study
Clemson University

Understanding Faculty Laggards and Administrative Technologies: A Phenomenological Study

Description of the Study and Your Part in It

Dr. Michelle Boettcher and Robert Simon are inviting you to take part in a research study. Dr. Boettcher is an Assistant Professor at Clemson University. Robert Simon is a Ph.D. candidate at Clemson University, running this study with the help of Dr. Boettcher. The purpose of this research is to better understand faculty members’ experiences with administrative technologies, and identify opportunities for improved implementation and use in the future.

Your part in the study will be to complete a five-minute survey based on your experiences using administrative technologies, specifically those used to perform administrative tasks. Select respondents may be invited to participate in further discussion.

It should take you no more than five minutes to complete the survey. If invited to participate in interviews, they will be limited to two 30-minute sessions.

Risks and Discomforts

We do not know of any risks or discomforts to you in this research study.

Possible Benefits

We do not know of any way you would benefit directly from taking part in this study. However, this research may help us to understand faculty experiences with administrative technologies, and in turn, lead to the indirect benefit of more effective implementation and use within colleges and universities.

Protection of Privacy and Confidentiality

We will do everything we can to protect your privacy and confidentiality. We will not tell anybody outside of the research team that you were in this study or what information we collected about you in particular. Your identity will not be revealed in any publication or presentation that might result from this study.
All recordings and notes for this study will be kept on a password protected computer and / or on flashdrives kept in a locked cabinet in a locked office. Recordings and any identifiable data will be retained for one year after the publication of the dissertation.

**Choosing to Be in the Study**

You do not have to be in this study. You may choose not to take part and you may choose to stop taking part at any time. You will not be punished in any way if you decide not to be in the study or to stop taking part in the study.

**Contact Information**

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Michele Boettcher at Clemson University at mboettc@clemson.edu or 864-656-1446.

If you have any questions or concerns about your rights in this research study, please contact the Clemson University Office of Research Compliance (ORC) at 864-656-0636 or irb@clemson.edu. If you are outside of the Upstate South Carolina area, please use the ORC’s toll-free number, 866-297-3071.

A copy of this form will be given to you.
Appendix B

Survey

Q1 Thank you for your participation. This survey was designed by Clemson University researchers investigating faculty experiences during the implementation of administrative technologies. Your part in the study will be to complete a five-minute survey based on your experiences using administrative technologies, specifically those used to perform administrative tasks. Select respondents may be invited to participate in further discussion. Further information regarding participating in this study can be found in the Informed Consent Letter, attached to the original email.

Q2 Are you a member of your institution's academic faculty?

  ○ Yes (1)

  ○ No (2)

Skip To: End of Survey If Are you a member of your institution's academic faculty? = No

Q3 Do you evaluate graduate admission applications?

  ○ Yes (1)

  ○ No (2)

Skip To: End of Survey If Do you evaluate graduate admission applications? = No

Q4 Gender

  ○ Male (1)

  ○ Female (2)
Q5 Highest Degree Earned

- Bachelor’s Degree (1)
- Master’s Degree (2)
- Doctoral Degree (3)

Q6 Faculty Rank

- Assistant Professor (1)
- Associate Professor (2)
- Professor (3)
- Professor of the Practice (4)
- Other (5) ________________________________________________

Q7 Academic Discipline

________________________________________________________________
Q8 Number of Years as Faculty Member

- 0-3 years (1)
- 4-7 years (2)
- 8-11 years (3)
- 12-15 years (4)
- 15+ years (5)

Q9 For the following portion of the survey, please consider your experiences with administrative technologies associated with your university’s business processes. The technologies you consider should not include any tools associated with pedagogy or research, but instead focus on those used for administrative functions. Examples could include software programs designed for filing for reimbursement, reviewing graduate admission applications, or reporting grades. For each question, please select the response that best matches your experience with your university’s administrative technologies.

Q10 I was __________ involved in the...

<table>
<thead>
<tr>
<th></th>
<th>not at all (1)</th>
<th>barely (2)</th>
<th>a little (3)</th>
<th>somewhat (4)</th>
<th>fairly (5)</th>
<th>mostly (6)</th>
<th>extremely (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>...decision to acquire these tools. (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>...implementation of these products. (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q11 After the software's implementation, I had ________ opportunities to share feedback.

- zero (1)
- barely any (2)
- limited (3)
- some (4)
- several (5)
- many (6)
- ample (7)

Q12 Feedback shared with the university ________ results in improvements to the software.

- never (1)
- rarely (2)
- occasionally (3)
- sometimes (4)
- often (5)
- regularly (6)
- always (7)
Q13 Please use the following scale to indicate your level of agreement with the following statements:

<table>
<thead>
<tr>
<th>Strongly Disagree (1)</th>
<th>Mostly Disagree (2)</th>
<th>Slightly Disagree (3)</th>
<th>Indifferent (4)</th>
<th>Slightly Agree (5)</th>
<th>Mostly Agree (6)</th>
<th>Strongly Agree (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>These technologies are user-friendly. (1)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>These technologies are an improvement over the previous business process. (2)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>These tools are an essential component of my work. (3)</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
Q14 I __________ use these tools.

- never (1)
- rarely (2)
- occasionally (3)
- sometimes (4)
- often (5)
- regularly (6)
- always (7)

Q15 For the next section, please consider in what ways these technologies could be improved, regardless of your responses to the previous questions. Please select the level of importance you would assign to each type of improvement.

<table>
<thead>
<tr>
<th>Better instructional documentation (1)</th>
<th>Not At All Important (1)</th>
<th>Very unimportant (2)</th>
<th>Unimportant (3)</th>
<th>Neutral (4)</th>
<th>Important (5)</th>
<th>Very Important (6)</th>
<th>Most important (7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easier to use (2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased training efforts (3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product enhancements and upgrades (4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q16 Select respondents may be invited to participate in further discussion. If you are willing to participate in up to two 30-minute interviews, please provide your email below.

Participant Email: __________________________

Q17 Thank you for your participation.

Should you have any questions regarding your participation in this study, please contact:

Dr. Michele Boettcher, Principal Investigator
Assistant Professor
Department of Educational and Organizational Leadership Development
College of Education
Clemson University
mboettc@clemson.edu

Robert Simon
Ph.D. Candidate
Department of Educational and Organizational Leadership Development
College of Education
Clemson University
rbsimon@g.clemson.edu
Appendix C

Survey Email

Dear Faculty Member:

You are invited to participate in a web-based faculty survey, as part of a research study being conducted by Clemson University researchers.

The survey intends to capture faculty perceptions of their experiences using administrative technologies, specifically those used to perform administrative tasks. Other basic information will also be collected.

Your confidentiality is assured, and results will never be identifiable at the individual level. Additional details on the study, and your participation, can be found in the attached Informed Consent Letter.

The survey should take a maximum of five minutes to complete. To access the survey, please click on the following link:

http://clemsoneducation.co1.qualtrics.com/jfe/form/SV_3rww1IUPzIkBeyV

Thank you for your time and consideration. Your participation is greatly appreciated.

Dr. Michele Boettcher
Principal Investigator
Assistant Professor
Department of Educational and Organizational Leadership Development
mboettc@clemson.edu

Robert Simon
Ph.D. Candidate
Department of Educational and Organizational Leadership Development
rbsimon@g.clemson.edu
Appendix D

Interview Request – Snowball Participant Email

Dear Dr. __________,

I am emailing to gauge your interest in participating in up to two 30-minute interviews, as part of a research study being conducted by Clemson University researchers. One of the current participants recommended we contact you, based on your connection to, and experience with, administrative technologies in higher education.

This research intends to capture faculty perceptions of their experiences using administrative technologies, specifically those used to perform administrative tasks and functions.

Your confidentiality is assured, and results will never be identifiable at the individual level. Additional details on the study, and your participation, can be found in the attached Informed Consent Letter.

If you are willing to participate, we ask for you to complete the short, four-minute survey below, as well as send me a few times that may work for you over the next few weeks. I am happy to meet with you at your preferred location.

http://clemsoneducation.co1.qualtrics.com/jfe/form/SV_3rww1IUPzIkBeyV

Thank you.

Robert Simon

Dr. Michele Boettcher
Principal Investigator
Assistant Professor
Department of Educational and Organizational Leadership Development
mboettc@clemson.edu

Robert Simon
Ph.D. Candidate
Department of Educational and Organizational Leadership Development
rbsimon@g.clemson.edu
Appendix E

First Interview Protocol

<table>
<thead>
<tr>
<th>Time of Interview</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>Place</td>
<td></td>
</tr>
<tr>
<td>Interviewer</td>
<td></td>
</tr>
<tr>
<td>Interviewee</td>
<td></td>
</tr>
<tr>
<td>Faculty Rank</td>
<td></td>
</tr>
<tr>
<td>Academic Discipline</td>
<td></td>
</tr>
</tbody>
</table>

Thank you again for taking the time to meet with me, and discuss your experiences during the implementation of administrative technologies, as well as your usage of said products. This study – “Understanding faculty laggards and administrative technologies: A phenomenological study” – is designed to better understand the faculty experience with these technologies, particularly amongst those faculty members who have not adopted, or been slow to adopt, these tools. We ask each participant if they wish to suggest any other potential participants, which is when another participant submitted your name. This, in conjunction with the original potential participant list, is why you were invited to participate in these conversations.

This project is aimed at gaining a better understanding of why individual faculty members adopt, or do not adopt new technologies in the workplace. Literature on the advancement of technologies in the workplace is often biased toward innovation, despite a lack of empirical research proving the benefit of such innovations. Furthermore, most implementations are performed contrary to well-established theoretical bases – most notably, by excluding laggards in the discussion and implementation process. Laggards are commonly described as the “hold outs,” or those individuals last to adopt a new technology.

Your participation is voluntary, and you are welcome to end the interview at any time. Today’s conversation should not exceed 30 minutes. I will most likely invite you to a second interview at a later date, which also would not exceed 30 minutes. Everything we discuss today will be held confidential. I would like to audio-record our conversation only to facilitate note-taking and transcription. The only individuals that will be privy to the tapes will be the researchers associated with this study. You will also have an opportunity to review the transcription, as well as construct your own pseudonym.
I am providing you with an informed consent letter, which reiterates much of what I have shared. It also details your rights as a voluntary participant, and that you face no risks due to your involvement. Unless you have any questions, we will proceed. I will turn the audio recording on, and ask the first question: “Do you grant me permission to audio-record our conversation?” If you approve, I will proceed with the interview questions.

1. Let’s start by allowing you the opportunity to speak on your role as a faculty member. Could you please take me through a typical day, or week, in your role?

2. How are the satisfactions and dissatisfactions of your job different than what you expected prior to becoming a faculty member? (Probe for: time, technology, overt alignment.)

3. How could your job be made easier? (Probe for: time, technology, autonomy.)

4. Can you discuss any ways you use technology to fulfill your administrative responsibilities? Examples may include graduate admissions software and grade processing systems. (Probe for: frustration, use, satisfaction, ease, and expectations.

5. I’d like to delve a bit further into technology use. Can you discuss your experiences when the institution moves forward with an administrative technology? (Probe for: satisfaction, dissatisfaction, institutional themes.)

6. How much do you think innovations like these are driven by the specific institution your work at, compared to broader industry trends? (Probe for: institutional themes, pressures.)

7. In regards to technology use, how would you describe your adoption of administrative technologies? (Probe for innovator, early adopter, early majority, late majority, laggards.)

8. Please discuss what, if any, insights you draw from your peers, when facing a new workplace technology. (Probe for motivations and user experience.)

9. How do you feel about the campus resources and training available to you? (Probe for training, time, knowledge, convenience.)
10. What would you need to adopt technology quicker? (Probe for training, time, involvement, incentives.)

That concludes today’s interview, and I thank you again for your participation. As a reminder, we will keep everything we discussed today as confidential. The only individuals who will have access to this recording will be researchers involved with the study. I will be in touch in the ensuing weeks to schedule a second, final interview. In the meantime, please feel free to contact me with any questions. My contact info is below.

Robert Simon Dr. Michelle Boettcher (PI)
612.702.0808 864.656.1446
rbsimon@g.clemson.edu mboettc@clemson.edu
Appendix F

Second Interview Email

Dear Dr. __________,

Thank you again for your willingness to take the time to be interviewed regarding your experiences with administrative technologies.

As a follow-up, I wanted to ask you two final questions. Additionally, I invite you to review the transcript of our conversation (attached), and to construct your own pseudonym. Please let me know if you feel the transcription does not accurately capture the spirit of our conversation.

The following questions are follow-ups to our previous conversation regarding administrative technologies. Please take a moment to answer. If you'd prefer, I would be happy to meet with you again.

1. Most of our previous conversation involved your individual experience. From your perspective, what has the impact of these innovations been on your greater organization (i.e., academic unit, college)?

2. Several participants indicated a frustration with the communications surrounding the development and launch of these products. How can the Institute improve their communication to faculty regarding a new innovation?

Finally, if you would like to provide your own pseudonym, please let me know by March 17. If I do not hear otherwise, I will construct one on your behalf.

I have also attached a copy of your Informed Consent Letter.

Thank you,

Robert Simon

Dr. Michele Boettcher
Principal Investigator
Assistant Professor
Department of Educational and Organizational Leadership Development
mboettc@clemson.edu

Robert Simon
Ph.D. Candidate
Department of Educational and Organizational Leadership Development
rbsimon@g.clemson.edu
Appendix G

Interview Codes and Subcodes

<table>
<thead>
<tr>
<th>Code</th>
<th>Quotes</th>
<th>Subcodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adoption</td>
<td>33</td>
<td>Forced (12), function priority (7), product quality (5), unadopted (4), past experience (3), hesitant (2)</td>
</tr>
<tr>
<td>Needs</td>
<td>32</td>
<td>Self-training (11), quick guide (8), autonomy (4), help, product design (3 each), communications (2), comprehensive platform (1)</td>
</tr>
<tr>
<td>Software</td>
<td>30</td>
<td>Inefficient (10), non-intuitive (6), efficient, underutilized (5 each), dislike, organization (2 each)</td>
</tr>
<tr>
<td>Involvement</td>
<td>23</td>
<td>Design (8), lack of (7), unclear (3), buy-in, low desire (2 each), desire (1)</td>
</tr>
<tr>
<td>Organizational Impact</td>
<td>23</td>
<td>Inefficiency, negative employee experience (4), alignment, impaired relationships, interpersonal value, resources (3 each)</td>
</tr>
<tr>
<td>Peer Interaction</td>
<td>22</td>
<td>Influence (9), helpful (5), organizational investment (3), learning, no influence (2 each), frequent (1)</td>
</tr>
<tr>
<td>Institutionalism</td>
<td>19</td>
<td>Mimetic (7), legitimacy (4), leadership, normative (3 each), coercive</td>
</tr>
<tr>
<td>Time</td>
<td>17</td>
<td>Deficient (7), learning curve (4), non-research, wasted (3 each)</td>
</tr>
<tr>
<td>Communications</td>
<td>13</td>
<td>Awareness (8), dissatisfied, peers (2 each), ignored (1)</td>
</tr>
<tr>
<td>Frequency</td>
<td>13</td>
<td>Rarely (10), often (3)</td>
</tr>
<tr>
<td>Defense/Laggard</td>
<td>11</td>
<td>Rationale (7), defense, denial (2 each)</td>
</tr>
<tr>
<td>Job</td>
<td>8</td>
<td>Balance, individual variation (4 each)</td>
</tr>
<tr>
<td>Career Satisfaction</td>
<td>7</td>
<td>Goals (3), satisfaction (2), experiential, familiarity (1 each)</td>
</tr>
<tr>
<td>Positivity Bias</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>Training</td>
<td>6</td>
<td>Ineffective (4), necessary, satisfied (1 each)</td>
</tr>
<tr>
<td>Failure</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Pro-Tech</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>Tech Savvy</td>
<td>5</td>
<td>Proficient (4), organizationally (1)</td>
</tr>
<tr>
<td>Frustration</td>
<td>4</td>
<td>Systems (2)</td>
</tr>
<tr>
<td>Implementation</td>
<td>4</td>
<td>Confirmation, risk, satisfaction, training (1 each)</td>
</tr>
</tbody>
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