An Analysis of the Communication of Organizational Knowledge Along Workflows at the University of West Georgia

A Dissertation submitted
to the Graduate School
Valdosta State University

in partial fulfillment of requirements
for the degree of

DOCTOR OF PUBLIC ADMINISTRATION

in Public Administration

in the Department of Political Science
of the College of Arts and Sciences

May 2018

Harry Jacob Nelson II

MM, University of Georgia, 2010
BM, University of West Georgia, 1998

This dissertation, "An Analysis of the Communication of Organizational Knowledge Along Workflows at the University of West Georgia," by Harry Jacob Nelson II, is approved by:

Dissertation Committee Chair

W. T. Watson by S. Mem

W. Todd Watson, D.P.A.
Adjunct Professor of Public Administration

Committee Members

R.D. Kellner by S. Mem

Robert D. Kellner, D.P.A.
Adjunct Professor of Public Administration

Jeremy Bauer, Ph.D.
Assistant Professor of Psychology, Counseling, and Family Therapy

Dean of the Graduate School

James T. LaPlant, Ph.D.
Professor of Political Science

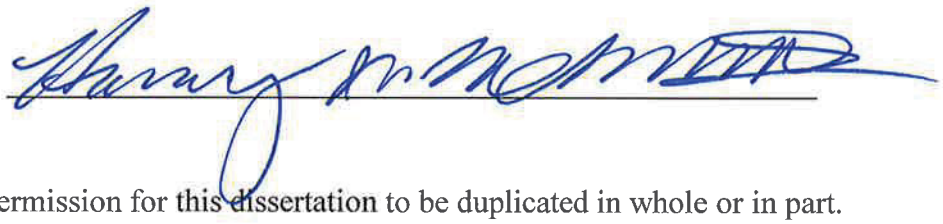
Defense Date

April 11, 2018

FAIR USE

DUPLICATION

I authorize the Head of Interlibrary Loan or the Head of Archives at the Odum Library at Valdosta State University to arrange for duplication of this dissertation for educational or scholarly purposes when so requested by a library user. The duplication shall be at the user's expense.

Signature 

I refuse permission for this dissertation to be duplicated in whole or in part.

Signature _____

ABSTRACT

Faculty and staff morale at the modern university is often negatively affected by the corporatization of the university system. Part of the issue is that bureaucratic governance and collegial governance are brought into conflict in an organizational structure that does not easily reconcile these two methods of organizational control. One consequence of this situation is that the staff who directly serve the faculty do not have the resources to do so effectively. Specifically, they do not have quick enough access to the expert information from the bureaucratic units of the institution thereby increasing the occurrence of serious administrative errors, which in turn causes more dissatisfaction.

This project demonstrates the need for the development of a decision tree and a knowledge base for ground-level, academic-department staff at the University of West Georgia (UWG). A decision tree would provide the ground-level university staff a *help desk personnel functionality* as a means to alleviate conflict between bureaucracy and collegiality. It could also reduce the demands on business office staff and improve the efficiency of workflows, while assisting in the development of more expertly informed collegial decisions. This project probes for qualitative data that can be used to develop the underlying, organizational structure and some significant initial content of a decision tree and knowledge base. It also develops a data set that can be used to examine the role of knowledge sharing between a university's business office staff and the ground-level department staff, as it affects faculty attitudes toward corporate style governance. Since the processes related to this development involve workflows that separate bureaucratic expertise from departmental staff, the survey in this study primarily focused on

university organization, policy and procedure, and the internal attitudes and perceptions about knowledge sharing along three specific workflows - the budget amendment process, the hiring of new staff positions, and the completion of non-routine purchases. This study also developed a foundation for future comparative studies of similar universities and government institutions.

TABLE OF CONTENTS

Chapter III: METHODOLOGY

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGEMENTS

I would like to thank the following individuals for their assistance and commitment to the completion of this project. To my dissertation committee, I would like to thank Dr. Kellner for the initial direction on the research design. His suggestions made a considerable impact on the case study design. I would also like to thank Dr. Jeremy Bauer for his assistance in reviewing the numbers. Finally, to Dr. Watson, I would like to extend my gratitude for his support and direction throughout the whole process. His patience and unwavering support are hallmarks of a true teacher!

There are also several key individuals at the University of West Georgia and Valdosta State, without whom I could not have completed this project. To Charla Campbell (UWG) and Tina Wright (VSU) I owe a debt of gratitude for helping me navigate through the IRB process. I would like to thank Dr. David Jenks for his assistance in this area as well, and for his support during the distribution of the survey. To Jim Sutherland and Dr. Michael Crafton, I owe thanks for allowing me to survey their staff, who are already surveyed enough. I would like to thank the UWG staff and faculty who took the time to complete the survey in this study, and a special thanks goes to Melissa Sullivan, for her assistance with the citation formatting and other proofreading details.

To my family: I would like to thank my mother, Carol Nelson for her assistance with the review and the overall proofreading of the dissertation. Special thanks goes to my father, Robert Nelson. While he is not here to see the completion of this project, many of our conversations about academic governance contributed to this final product.

To my wife and children: Words cannot say how much I thank you for your patient support while I completed this project. To my wife, Becky I am thankful for everything, especially your constant support and inspiration! To Jacob, Anna and Elizabeth, you are the greatest children that a father could be blessed to have!

DEDICATION

I dedicate this work to my beautiful wife, Becky. Without her I would have never completed this monumental task.

Chapter I

INTRODUCTION

Overview of the Organizational Study: *An Analysis of the Communication of Organizational Knowledge along Workflows at the University of West Georgia*

The university has been an institution for over five hundred years, and from its foundation in the eleventh and twelfth centuries it was established on the principles of the medieval guild. The very idea of a guild involves unity and deference, the hallmarks of collegiality that have become the tradition of academia today. In the university, this rich tradition has endured for centuries and has remained intact throughout the great industrial and organizational revolutions of the nineteenth and twentieth centuries. As a result, age-old traditions have persisted in the large organizational structure of the university that do not necessarily conform to the modern bureaucratic paradigm. All of this might be of minimal consequence except for the fact that over the last decades of the twentieth century a movement to corporatize and bureaucratize the university system has almost completely revolutionized the governance of the modern university.

While the corporatization of the modern university system is usually attributed to the development of New Public Management in the 1980's, the roots of this movement can be traced back to the founding of the American Association of University Professors (AAUP, n.d.). The founding of the AAUP in 1915 by John Dewey and Arthur Lovejoy was in response to the threats to academic freedom from the corporate interests of the day, as seen in the dismissal of the well-known economist Edward Ross from Stanford

University by Jane Lathrop Stanford (AAUP, n.d.). The founding of the AAUP was a concrete example of the struggle for academic freedom in the face of industrialization and corporatization. As demonstrated by the history of the AAUP, faculty resistance to corporatization has been a tradition in itself. Now that the modern university has been thoroughly corporatized, this resistance has been the cause of many barriers to governance. Interestingly ironic, however, the purpose of bureaucratic governance, the hallmark of corporatization is not to create barriers but to introduce efficiency into large organizations. Its usefulness is rooted in its own history. According to Max Weber, bureaucratic organization is the epitome of efficiency in the running of a large organization. Competence in a specific area of administration and clear lines of authority in decision making are the basic characteristics of bureaucracy. Weber contrasts bureaucracy to "collegial" or "honorific" forms of administration in that the bureaucratic administration is more like a "machine" rather than "the non-mechanical modes of production" (Weber, 2003). This rests on the fact that the constituency of a bureaucracy is professional staff with specialized competencies who are there to do a job under the control of a monocratic authority. The professional staff therefore must have expertise in an area of administration (budget, accounting, personnel), and this is quite different from an academic faculty that specialize in a discipline (art, philosophy, mathematics, etc.). In an academic institution, both of these functions have their place, but their styles of management are quite different and often require considerable reconciliation.

Collegiality versus Bureaucracy

Collegiality in the Weberian sense is no more than an obstacle to efficient administration. In his analysis, collegiality is one of several mechanisms established by aristocracy or notables in order to delay efficient decision making by professionals (Weber, 1968). Yet, collegiality was the prevailing organizational structure of the academic departments of colleges and universities prior to their corporatization in the late 20th century. "Collegial governance models [are] characterized by informal decision making, consensus building, community of peers, and a high degree of personal interaction" (Kezar & Eckel, 2004). This method of governance is a far cry from bureaucracy in which decisions are based on legitimate authority and are carried out quickly without deliberation (Weber, 2003). There are justifications for both methods of governance, as there are often reasons to build consensus and to discuss among peers when it comes to organizational initiatives, while at the same time there is a need for expertise when it comes to mandates imposed on the organization. What this leads to in the modern, corporatized university is a paring of two opposing methods of governance that are equally necessary, one of which is deeply rooted in the tradition of the university and the other of which is a desired modernization of practice.

Faculty and staff morale at the modern university is often negatively affected by this situation surrounding the corporatization of the university system. Part of the issue is that bureaucratic governance and collegial governance are brought into conflict in an organizational structure that cannot easily reconcile these two methods of governance. To accommodate these opposing methods of governance, colleges and universities bifurcate these governing functions into a bureaucratic unit–usually under the title of

"Business Office" or "Business and Finance"–and an academic unit typically known as "Academic Affairs." One consequence of this situation is that staff members who directly serve faculty within the academic unit do not have the resources to do so effectively because they do not have quick enough access to specialized policy and procedure information from the bureaucratic units of the institution. This only serves to increase the occurrence of serious administrative errors, which in turn causes more dissatisfaction as increased bureaucratic oversight comes to bear on academic initiatives.

A Comparison to the Call Center Helpdesk

There is a comparison that can be made between the academic department staff who are separated from bureaucratic expertise and another type of staff–helpdesk staff in the customer service industry, who are also separated from technical or product expertise. Ground-level, customer service call-center staff are not experts on the products with which they assist, however, they have immediate access to expert information through knowledge bases and scripted prompts that help them to diagnose a problem. 911 operators use the same type of system to diagnose the severity of any emergency, medical situation. In these cases the personnel who initially deal with the situation at hand are not the experts in the particular subject area. It would be too costly to hire experts to field customer service inquiries. Therefore, these staff are non-experts acting as experts, the most basic function of an expert system. While expert systems usually connote some software or artificial intelligence system, not quite as simple as the low-tech system of a knowledge base and a branching script, the idea is still important; a non-expert can have immediate access to specialized expertise. Due to the timing and the nature of the collegial faculty decision making process, faculty governance suffers from its separation

from bureaucratic expertise. Immediate access to this knowledge is either too costly as in the hiring of experts in every department, or its systems, the branching scripts or decision trees and knowledge bases are nonexistent in the institution.

Purpose of Study and Statement of Need

There is a need for the development of a decision tree and a knowledge base that will allow the ground-level academic-department staff at the University of West Georgia to function as help desk personnel as a means to alleviate the conflict that often erupts between the bureaucratic unit and the academic unit of the institution. Furthermore, this is not a problem unique to the University of West Georgia, but a problem common to many colleges and universities in the corporatized, university system. This project demonstrated the need for the development of a decision tree and a knowledge base that will allow the ground-level academic-department staff at the University of West Georgia to function as help-desk personnel as a means to alleviate conflict between bureaucracy and collegiality. This project also probed for qualitative data that could be used to develop the underlying, organizational structure and some significant, initial content of a decision tree and knowledge base to assist UWG staff in the navigation of policy and procedures related to their jobs. It also developed a data set that was used to examine the role of knowledge sharing between a university's business office staff and the ground-level department staff, as it affects faculty attitudes toward corporate style governance. Since the processes related to this development involve workflows that separate bureaucratic expertise from departmental staff, the survey in this study focuses primarily on university organization, policy and procedure, and the internal attitudes and perceptions about knowledge sharing along three specific workflows–the budget

amendment process, the hiring of new staff positions, and the completion of non-routine purchases. This study also developed a foundation for future comparative studies of similar universities and government institutions.

The need for the development of a decision tree for academic department staff stems from the corporatized university's use of surveillance by audit to control decisions made by faculty administrators. Surveillance by audit, as discussed by Ryan (2012), Lorenz (2012) and Craig (2014), is a management mechanism whereby program activities are reviewed with respect to an imperative from some external stakeholder. It implies that decision makers should be aware of the criteria by which they are audited. This poses a unique challenge for university governance because of the process by which collegial decisions are made and implemented. Collegial decision making and implementation is a two-step process that begins with the collegial decision and ends with the engagement of department staff. First, collegial decisions are made by faculty who meet and decide on an initiative through a discussion amongst colleagues. This is done in the absence of bureaucratic expertise though many decisions made by these administrators require knowledge of the criteria by which decisions and initiatives are audited. Then these faculty groups bring the initiative to their immediate departmental staff to work out the details of implementation. In the collegial decision making process, department staff serve as the information conduit between the faculty and the bureaucracy, yet they do not possess or have immediate access to the bureaucratic expertise on the criteria by which decisions and initiatives are audited either.

In the modern, corporatized university, departmental staff are typically the only connection that faculty have to the formal bureaucracy. These staff are called upon to

perform a wide range of duties yet they are not paid enough to be the expert in any one area. In addition, they have too many duties to be experts in all or even one of the fields in which they have to perform on a routine basis. Usually many levels of workflow intervene between the departmental staff and the experts such as controllers and specialists at the other end of the bureaucratic chain. In the surveillance-by-audit culture that the modern university has become, this situation poses risks that the bureaucracy is charged to prevent. Expert knowledge in several key fields is the bureaucracy's primary means of preventing these risks, but this knowledge is not immediately available at the academic department level. Examples of these types of expert knowledge include human resources procedures (such as those surrounding labor law regulations), audit controls (such as regulations that control purchasing, budgeting and accounting procedures), and institutional policies, procedures and guidelines. The risks in this surveillance-by-audit environment are ones that can have serious impacts on an institution. Human resources errors can lead to lawsuits and fines. Audit controls errors can lead to the violation of regulations and mandates from stakeholders, especially government stakeholders whose mandates and regulations are usually enshrined in law. Budgeting and accounting errors can cause audit failures, not to mention the loss of institutional, procedural knowledge.

It is in the prevention of serious risks in the surveillance-by-audit culture of a corporatized university where bureaucracy and collegiality come into conflict. The bureaucracy has an interest in and a responsibility to eliminate these risks to a clean audit, but they are not equipped to run or to have an immediate presence in academic departments where the potential risks are occurring. Universities (or any other organization for that matter) are not funded at a level necessary to fulfill the staffing need

for this type of bureaucratic presence in the individual departments. Academic departments operate under a collegial model of discussion and consensus building, but the types of decisions that academic departments make often require some level of bureaucratic expertise in order to avoid violations. These types of decisions are made on a routine basis in the academic departments of a university, but when errors are made in a collegial decision of this type, the bureaucracy has a responsibility to intervene. Due to the levels and layers of organization that separate the bureaucracy from the departments this intervention is often so late that the time for corrective action has completely passed, and problems become infinitely more complicated. When the bureaucracy intervenes and it is too late to avoid an issue, the consequences can be embarrassing to faculty, nearly impossible to fix, and can end up doing real damage to an academic initiative or program. This becomes a serious frustration and leads to a feeling that the bureaucracy is meddling, when in reality they are trying to mitigate the damages. Bureaucratic intervention is often seen as a deliberate affront to faculty governance but it is really just an issue of timing and organization. A decision tree for departmental staff is needed because the informed involvement of departmental staff, who are closest to the collegial decision-making process, is an often overlooked but key component in the success or failure of a departmental initiative. A decision tree and knowledge base would bypass the lengthy intervals of time and workflow that separate the faculty decision process from the bureaucratic expertise.

Description of Analysis

The analysis in this study was based on a case study design as defined by Robert Yin (2014). The elements of the analysis included pattern matching and explanation

building. These analyses were alson based on correlations found in survey data, and logic models of the workflows under review. Data from the field and from the literature suggest that there is a valid case where deficiencies in knowledge sharing between business office specialists and ground-level academic-department staff contribute to barriers in governance between collegial decision makers and bureaucratic decision makers. The data in this study was used to demonstrate the case as it exists at the University of West Georgia, and was analyzed through a triangulation of 1) qualitative data found in the survey, 2) corroboration between the survey data and the data from the literature, and 3) corroboration between data from the literature and data from the field.

The first element of the triangulation used in this study was the quantitative and qualitative data collected in the survey. This data was compared to the second element of triangulation, the qualitative data found in the literature, to see if there was a pattern match. The third and final element of triangulation is the data from the field, and it was compared to the data found in the literature. Pattern matching between the data from the field and the data from the literature was used to define a theoretical case. Logic models were used to demonstrate the pattern matching between the data from the field and the data from the literature. Pattern matching between all three sets of data demonstrated that the theoretical case is present at the University of West Georgia. Furthermore, the correlations found in the survey were used to identify the presence of the theoretical case within the workflows demonstrated by the logic model. Scores from the answers to "knowledge sharing" questions were compared to scores from the answers to "presence of conflict" questions to determine a level of correlation. The responses included data on

the workflow as well, and this data was used to connect responses with departments identified in the logic model.

Project Objectives

The objectives of this study are as follows:

1. First Objective–To define a case where deficiencies in knowledge sharing between the bureaucracy and the academic faculty in a university has increased faculty dissatisfaction with corporate style university governance.
2. Second Objective–To assess the perception of the level and quality of access that Academic Affairs' departmental staff have to the bureaucratic expertise in the Business and Finance departments of Human Resources, Budge Services, Purchasing and The Controller's Office.
3. Third Objective–To confirm the case at UWG by determining if there is a relationship between negative/positive perceptions of academic department access to bureaucratic expertise and negative/positive perceptions of faculty governance among faculty at UWG.
4. Fourth Objective–To demonstrate the need for a decision tree and knowledge base in order to facilitate access to bureaucratic expertise.

Research Questions

The research questions in this study are:

1. Is there a perceived need throughout the workflow in an academic institution for the facilitation of access to bureaucratic expertise?

2. How would the organizational structure of the University of West Georgia support the implementation and management of a decision tree and knowledge base for ground level academic department staff?
3. How would the organizational structure of a similar institution support the implementation and management of the same decision tree and knowledge base?

Project Selection

This case study examines the workflow structures and the perception of access to bureaucratic expertise throughout those workflows between the academic departments and the business office at the University of West Georgia. The University of West Georgia is one of the four comprehensive universities in the University System of Georgia (University System of Georgia, n.d.). UWG had and enrollment of over 13,000 students during the 2016-2017 academic year, but in comparing the enrollment over the last two decades there has been a period of growth that has had an impact on the organizational structure and workflows of the institution. Processes that may have worked for an institution with 8,900 students in 2000 are no longer efficient for a university with over 13,000 students (Historical Enrollment, 2015). As a growing institution, the University of West Georgia underwent a modernization of its business practices starting in the late 2000s. Forms and procedures along with workflows were transformed to reflect a more corporate scheme. At the same time, major advancements in Information and Communication Technology were taking place. Document sharing and corporate reliance on email and web-based communications paved the way for less reliance on printed forms, and a transition to electronic media was well underway. For example, the last printed copy of "The Scoop," the university's published guide to

semester events was issued in the early 2000's. Now this publication is exclusively online.

The major divisions of the university include The Office of the President, The Division of Academic Affairs, The Division of Student Affairs, The Division of University Advancement, The Division of Business and Finance, The Office of Research and Sponsored Projects, The Office of Legal Services and the Office of the Chief Information Officer (University of West Georgia, N.D.). This study examines the workflows and the accessibility and transfer of a special type of organizational knowledge between two of these units; The Division of Academic Affairs and the Division of Business and Finance.

The Rise of Web 2.0: *Wikis, the PDF and other ICTs*

There is no doubt that there has been an advance in information and communications technology over the same period in which UWG began and continued to modernize its business operation in the early 2000s. The development of Wikis, web publishing, PDFs and Google Docs are just a few advances that make the sharing and communication of information what it is today. In addition to the technological advances, there have also been advances and changes in the expectations and capabilities of the average ICT user. Prompt responses to emails is a normal expectation in the current workplace. Where at one time memos were distributed by paper and responded to on the timeline of a hand delivery service, now administrative staff are responding to hundreds of memos a day in the form of email. Responses are instantaneous. This is the expectation of the modern day ICT user, and the applications that serve these users have met this expectation. Web 2.0 is characterized by the ability to accept user content and

documents that are accessed online, and can be searched for content as well as downloaded and even edited if the access is allowed. With this technology, it is possible to publish information instantaneously and on demand. One only needs to look to Wikipedia, WebMD, and social media to see how fast information can be made public and accessible. With regard to organizational knowledge, the platform and technological infrastructure for immediate access to content (specialized or not) is firmly established and relatively inexpensive.

In today's world, there is no reason why this type of information access could not be applied to the situation of organizational knowledge sharing in the modern, corporatized university. As such, there is an urgent need for a decision tree and knowledge base that would clear many obstacles to faculty governance by introducing an immediate access to specialized, bureaucratic expertise at the academic department staff level. The need is intensified for the growing, regional and comprehensive, corporatized university, because of the steep growth in technology coupled with the transition from archaic and outdated systems of communication, characteristic of a former era of organizational knowledge. Chapter 2, the Literature Review, documents both the need for an enhanced method of organizational knowledge sharing between the collegial and bureaucratic units of the modern university, and the potential of current helpdesk and information and communications technologies to address that need. Chapter 3, the Methodology, deals primarily with the assessment of the need in an institution for increased knowledge sharing. It also explores various considerations in implementing a new system governing workflows by surveying staff attitudes toward shared oversight and input to their workflows and processes. Finally, it establishes the foundation for a

comparative study by demonstrating a method for studying the topic in an individual institution.

Summary

One of the challenges faced by the modern, corporatized university is the negotiation of two conflicting methods of governance, bureaucracy and collegiality. By all accounts, these two methods of governance should not coexist, but they do in the university–and it is in fact a status quo. But this is not without consequences. Friction between the governing entities, faculty, and bureaucrats is inevitable in the struggle for shared governance. In the grand scheme of shared governance there is an element that might offer some means to alleviate the tensions that arise between these conflicting, governing ideologies. Ground level staff who are already part of the system could be one of the most valuable resources in bridging the gaps of shared governance. All that is needed is a direct connection to the bureaucratic expertise that manages the mandates and regulations that come to bear on the institution. Prior to the developments of Web 2.0 ICTs like Wikis and other instant web publishing applications, immediate access to organizational knowledge and expertise would seem extremely difficult, but now that technology is available that allows an organization to change a policy or procedure manual online, the barriers have been lifted. This study examines considerations in implementing this type of access in the form of a decision tree and knowledge base in a single institution as a preparation for comparative studies and replications.

Chapter II

LITERATURE REVIEW

Introduction

The goal of this study was to examine relationships between dissatisfaction with faculty governance and the sharing of organizational knowledge along workflows in the modern, corporatized university. It was also a goal of this study to recommend the development of a helpdesk-type technology to address deficiencies at the academic department, staff level that may negatively affect faculty attitudes toward shared governance under the modern bureaucratic paradigm. To achieve this, the study first examines how the conflict between collegiality and bureaucracy can develop along workflows. Then it demonstrates how knowledge bases, branching scripts, and decision trees can prevent this type of conflict. As such, the literature reviewed includes the subjects of university governance, organizational theory, academic department leadership, and helpdesk technology.

Literature on university governance includes both its historical background and the current attitudes and perceptions of university faculty regarding the corporatization of the university systems. It also includes discussions of collegiality and bureaucracy that are grounded in more fundamental organizational and sociological theories. The historical background of university governance illustrates the root cause of the controversy over corporatization of the universities. This process has led to a widespread

and well documented dissatisfaction amongst faculty with anything identified as corporate in nature, and an equally widespread and well-documented resistance to its attendant bureaucratization. With regard to collegiality and bureaucracy, modern analysis of university governance brings into focus the notion of shared governance by highlighting the fact that two distinct groups, bureaucrats and academics, share in the role of governing the university. This literature focuses on the idea of collegiality as opposed to bureaucracy and it demonstrates the current state of these opposing methods of governance (i.e. that these two very different methods of governance are employed by opposing groups which share governance of the university). The faculty governs through a more democratic process known as collegiality, while the administration governs through the strict adherence to rules known as bureaucracy. The essence of this conflict can be studied in the works of sociologists as well as organizational theorists. Max Weber's theories on collegiality are the source of many important debates on the topic. These, in addition to quantitative studies on governance in higher education demonstrate a number of points on the conflict between bureaucracy and collegiality; the data confirms that dissatisfaction is commonplace, that it affects morale in a negative way, that the issues match the concerns found in the literature, and that bureaucratic processes are viewed with contempt.

The subject of departmental leadership may be somewhat of a shift in this literature review, but the shift indicates a potential gap in the literature. If workflows are identified as an occasion for increased conflict in faculty governance, then a synthesis can be made between the literature on governance and the literature on academic support staff. Literature on the engagement of academic support staff tends to be nominal,

superficial, or glib, if not uncomfortably obligatory. There may be opportunities for exploratory research in this area, exposing deficiencies and examining solutions. A potential material solution for addressing the identified deficiencies in process leadership could be helpdesk technology. Departmental leadership may not appear to be related to the subject of collegiality and bureaucracy in faculty governance, but if there is a technology component that offers a specific solution to workflow-related conflicts between collegiality and bureaucracy, then a synthesis is possible. This type of literature includes the topics of helpdesk scripts and management information systems. The literature in this area tends to be practical and cursory.

At this time, there is not a body of literature that deals directly with how faculty contempt for bureaucracy negatively affects non-academic staff. Not much literature currently exists that assesses the role of non-academic staff as a conduit of information between the faculty and the bureaucracy. Furthermore, no extant literature recognizes helpdesk technologies and processes as a means to alleviate the tension between bureaucracy and collegiality. Overall, there seems to be a gap in the literature representing an opportunity to explore the role of non-academic staff in mitigating tensions between bureaucracy and collegiality. This literature review covers the relevant literature that exists in the areas of university governance, organizational theory, academic department leadership, management information systems, and helpdesk technology.

University Corporatization

The history of shared governance in American universities is well documented in the timeline of the progressive policy of the American Association of University

Professors (AAUP). The first statement of the AAUP in 1920 dealt with faculty involvement with hiring decisions, but the ensuing development and progress of the AAUP over the course of its existence has led to a full-fledged movement for the sake of preserving academic freedom in the face of societal pressures. The development of this movement is described as "[r]efinements . . . introduced in subsequent years, culminating in the development of the 1966 Statement on Government of Colleges and Universities" ("Shared Governance," n.d.). The function of the 1966 statement was twofold. First, it recognized the influence of external stakeholders who control university resources such as state governments, in the case of state colleges and universities, and religious institutions, in the case of religious colleges and universities. Second, it established a general structure and expectation for shared governance between faculty, governing boards, and stakeholders. Since that time, New Public Management has come to bear on faculty governance and the faculty perceptions of governance in higher education. In many ways, this influence of New Public Management has been hailed as a process of modernization, but it is also so closely associated with the problem of the commercialization of higher education that it has become a serious point of contention with negative effects on morale.

Much of the discourse on university corporatization deals with dysfunctions of corporate governance and the consequent dissatisfaction of university faculty. There are a number of undesirable symptoms commonly cited, from loss of autonomy to interference with faculty governance. These symptoms are attributed to New Public Management, and there is a strong awareness of the problems of corporatization, but there tends to be no clear discussion of solutions to the problem. Suzanne Ryan, in

Academic Zombies: A Failure of Resistance or a Means of Survival?, uses the zombie as a metaphor for the academic faculty reaction to corporatization and bureaucratization of universities. She describes a situation in which academics tend to recuse themselves from academic activities in the face of increased bureaucratic demands, a theme that is common on university campuses. While "[n]ew public management policies . . . have changed universities from social institutions to quasi corporations . . . scholarly literature depicts a decline in morale, freedom and academic identity in both research and teaching" (Ryan, 2014, p. 76). Ryan explains this reaction of zombification as "a form of passive resistance and survival . . ." (Ryan, 2012, p. 3). According to this author, withdrawal and acquiescence are characteristics of passive resistance to corporatization, and they are commonly viewed as the only options, albeit very ineffective solutions. Despite this outlook, there is still "no dearth of complaints about what is happening in higher education . . ." (Ryan, 2012, p. 3), as several recent studies demonstrate (Lorenz, 2012; Parker, 2012; Parker & Guthrie, 2010).

According to Lee Parker (2012), in the corporatized university, the traditional values of the university have been supplanted by bureaucratic concerns. He states that in the modern corporatized system,

> . . . we see financial management move from the margins of its traditional decision support role in higher education institutions, to centre stage. Rather than being confined to the role of facilitator of overall higher education strategy, it has become the main game, both in and of itself. It simultaneously conditions and drives university mission and objectives, but also becomes an end in itself" (Parker, 2012, p. 256).

As the bottom line increases in importance, the focus on academics diminishes. Profit is not necessarily the problem, provided that "academics have ownership and control of what they do and are not reduced, by commodification of teaching and research, to the level of a factory employee . . ." (Parker & Guthrie, 2010). But it is often noted that academic rigor is sacrificed through commodification for the sake of enrollment and retention numbers. Parker & Guthrie note that "smallness and human interaction make for more engaged academics and students . . . Neither a "bearpit of ideas" nor a "creation of understanding" occurs in large schools and large classrooms . . ." (Parker & Guthrie, 2010, p. 8). As profit and enrollment numbers continue to dominate university missions and objectives, the workload increases as does the interest in strong centralized control as a means of managing that workload. Parker and Guthrie suggest that "[a] clear and acceptable value proposition will only come through communication, not bureaucratic decree. . . [and a] one-size-fits-all approach only serves to alienate individuals either from commitment to their school or to the academic profession or both" (Parker & Guthrie, 2010, p. 8). Bureaucratic decree and one-size-fits-all are the objectives of corporatization, yet these practices are connected throughout the literature with pejoratives of "Fordism" and "McDonaldization" (Prichard et al., 1997) that connote the sacrificing of true quality for the sake of automation. All of these references demonstrate a wide variety of dissatisfactions with the corporatization of the modern university, the basic themes of which are loss of autonomy and academic freedom through top-down management and forced commodification to teaching and research, increased workload, and bureaucratic meddling and aggrandizement that manifest themselves in delay tactics of the bureaucratic timeline. Lorenz (2012) notes the following:

> Bringing all the arguments together, one is forced to conclude that the NPM discourse is Orwellian in nature because it redefines concepts such as quality, accountability, transparency, and professionalism and perverts them into their opposites. It is no wonder that this discourse and the practices associated with it are fundamentally undermining the ancient profession of teaching (p. 625).

Many academics perceive the solutions to the problems of university corporatization to be limited. By all accounts, university corporatization's negative effects on faculty morale are well documented.

The Chronicle of Higher Education has over 8,400 articles on governance alone, and submissions involving the AAUP number in the 1,600's. It has become somewhat of a clearinghouse for literature on faculty governance, and is cited in several of the articles within this literature review alone. R. Weisbuch's 2015 article on shared governance is an excellent example of the information in this source as it highlights faculty distain for modern governance. Weisbuch describes the situation in modern university governance as follows:

> Faculty Bob finds Administration Bob a dumb bull in a shop of fine china. Administration Bob is fond of describing Faculty Bob as standing in that shop in the dark and refusing to change the light bulb. Professor Bob likes to remind Ex-Prez Bob that tradition and slow change have served universities extremely well, as one of the few institutions with roots in the Middle Ages, while today's new tech will become tomorrow's hula hoop. Ex-Prez Bob then retorts that Professor Bob simultaneously believes that the academic ship is sinking but doesn't want anyone to rock the boat . . . (Weisbuch, 2015)

Weisbuch points to a lack of trust as a major factor in the rocky relationship between administrators and faculty. While he offers a faculty oriented solution to the problem– viz. the formulation of a faculty committee and faculty involvement in the administrative process-- in the discussion of trust, communication has some level of importance. It is the workflow that is the main conduit of communication for the bureaucracy, a conduit into which the faculty administrator as well as their immediate office staff are necessarily interpolated.

The Chronicle is well known for its op-ed section and is often a source for critiques of academic governance. J. Z. Muller (2018) describes the obsession with metrics as cult-like. He notes the encroachment of bureaucratic measurement, and its effects on higher education. Berg & Seeber (2016) in another Chronicle article critique the effects of university corporatization work-life balance among the faculty. Berg & Seeber echo Ryan's sentiments of passive resistance to the bureaucratic machine that universities have become. Simon Marginson expresses the concern with governmental involvement and its effects on academic freedom, stating that "the instinct of national or state governments is to design financial support and management systems that enable them to shape the forms of research, plan research outcomes, and more closely focus how we use knowledge" (2010).

There are several aspects of corporatization and bureaucratization that tend to erode faculty governance. Governance initiatives themselves, such as faculty reviews and annual contracts, eat away at individual autonomy as top down governance is adopted by more and more administrators. Provisions for tenure offer a "clear protection to academic freedom" (Shattock, 2001, p. 35), yet budgetary considerations that invoke

financial exigency and redundancy as a cause for dismissal represent threats to academic freedom similar to those faced during the early years of the AAUP. Furthermore, the new order has been duly noted as it "has radically redefined the task and life of the university. As significant decisions are now being made on rationalistic rather than educational grounds, academics have suffered the erosion of autonomy for it is no longer teaching, research and scholarship which hold pre-eminence" (Berlach, 2001, p. 4). On the surface, this governance issue seems several levels removed from the routine business procedures followed by academic department staff in a corporatized university, but it is related. While faculty reviews, tenure and academic appointments are still an academic affair and a faculty concern, the nature and purposes of the reviews are often seen as a barrier to academic freedom. More importantly, however, they are understood as part of a managerial regime in which "[n]ew public management policies . . . have changed universities from social institutions to quasi corporations in which control over academics and their work has increased" (Ryan, 2014, p. 76).

Managerial procedure is where the ground level university staff becomes involved with the conflict between bureaucracy and collegiality. According to Craig et al., "[m]anagerial oversight of academic work has reached a critical tipping point" (Craig et al., 2014), and this can be seen in the expansion of "vogue" (Craig et al., 2014, p.1) assessment measures that are common to the administration of higher education. According to several researchers, "[t]he growth in administration and administrators is noted as indicative of 'the decreasing trust in academics' (Tight, 2010, p. 214), a perceived distrust that in turn undermines shared systems of belief, professional values and our sense of identity as academics (Henkel, 2005)" (Ryan, 2014, p. 81). Craig et al.

call this a perverse, audit culture because it seeks first to legitimize itself. This is achieved through the implementation of oversight, and through this implementation "an audit culture legitimates managerial power at the expense of more traditional and collegial visions of a university" (Craig et al., 2014, p. 2). Several key controversial managerial mechanisms have been employed in the corporatization of the university system, including measurement and surveillance by audit. Surveillance by audit refers to all of the procedures for documenting, reviewing, and approving the business procedures of an institution. As such, "audit and surveillance increase the time and pressures on academic work" (Ryan, 2012, p. 5), and the administration of the procedures of surveillance by audit are carried out mainly by the ground level staff in academic departments and in the bureaucratic unit of the university. As research demonstrates, faculty are often "angered by managerial discourse and practices but generally refuse . . . to engage with them . . ." (Ryan, 2014, p. 82; Anderson, 2008). This means that the ground level academic department staff members are responsible for managing processes and procedures that are routinely viewed by faculty as a burdensome and deliberate usurpation of governance.

Faculty Governance/Shared Governance

The overarching issue for faculty governance is the notion of collegial versus bureaucratic governance. While the collegial model of governance, a model based on consensus amongst colleagues, has been the traditional model of governance in the university from its founding days, since the industrial revolution, bureaucratic governance through legitimate authority has thoroughly taken hold. Scholars agree that, over the course of the 20th century, the governance of institutions of higher education has

become increasingly complex. In an early study, Baldridge noted that "bureaucratic and collegial models, were relevant to understanding how governance operated (Kezar & Eckel, 2004)." Baldridge also states that both bureaucratic and collegial models have flaws; specifically, that the university is inherently both a bureaucracy and a collegium. Furthermore, it has been noted that "Weber's paradigm cannot handle nonformal kinds of power and influence" that are standard operating procedure for the collegium (Baldridge, & Stanford Univ., 1971, p. 4). This identifies the nature of the forces that hold bureaucracy and collegiality together in university governance.

Kezar and Eckel (2004) address several key issues surrounding this growing complexity in their article Meeting Today's Governance Challenges. The authors cite both the conflict between collegial and bureaucratic governance, and what they call "weak mechanisms for faculty participation" (Kezar & Eckel, 2004, p. 371). The collegial model of governance is recognized here as the traditional model for universities; a model that is less formal and more democratic in nature than the bureaucratic models that are colonizing university governance today. The authors state that "[t]he emerging bureaucratic model contrasts with the collegial governance structures that some scholars suggested characterized many campuses prior to the growth and increasing complexity since World War II" (Kezar & Eckel, 2004, p. 376). They argue that collegial governance is under fire (though not necessarily inefficient or lacking), and according to Sahlin et al. (2016), these "new forms of governance have challenged more traditional forms, especially collegial modes of governance" (p. 2). But bureaucracy has not completely overtaken traditional, democratic forms of governance. Sahlin et al. further

contend that collegiality often works alongside more structured types of governance, and they point out its continued relevancy.

Another point that Kezar and Eckel make is that the organizational theory often cited as critical of collegiality may yet contribute to the improvement of collegial governance. They state that "[s]ome might argue that although bureaucratic and rational models do not explain campus governance, they can be used to improve it" (Kezar & Eckel, 2004, p. 382). Furthermore, the authors state that "faculty satisfaction with governance is related to knowing that involvement makes a difference (Dimond, 1991)" (Kezar & Eckel, 2004, p. 388). Weaknesses and inefficiencies in governance take many forms and barriers to successful faculty involvement are often manifested in the workflows of the bureaucratic structure. Both organizational theory and the analysis of workflows offer potentials for diminishing the conflict between collegiality and bureaucracy in the corporate university.

Research since the 1970s demonstrates that there has been an increase in bureaucracy in the university and that it is more complex to deal with than older models of governance. Baldridge's 1971 study is cited as one of the first to deal with the human element in governance (Kezar & Eckel, 2004). According to Pannu (1973), university governance is a "political process, not merely a collegial or bureaucratic one" (p. 351), and the political process is "dominated by conflict rather than consensus" (p. 355). Scholars point out that "Birnbaum's major study (1985-1989) focused on the political aspects of governance" (Kezar & Eckel, 2004, p. 383), specifically the need for more political forms of governance like collegiality. This is precisely the argument that Sahlin et al. (2016) make when they say that "collegiality is a modern, efficient and practical

form of governance . . . [that] interacts with other modes of governance" (p. 1). We know that organizational theories can be used to make improvements to non-bureaucratic forms of governance. According to Keller (1983) new governance structures have been established that incorporate both bureaucratic and collegial methods. This is one of the primary focuses of the current study. As universities work through the conflict between collegiality and bureaucracy, anything that assists in the resolution of that conflict should also affect satisfaction with governance. Furthermore, any improvement in this area is an improvement to faculty governance as a whole.

Max Weber and Collegiality

Max Weber is considered to be the preeminent authority in the development of organizational theory, specifically early theories on bureaucracy. His works, which include references to university governance with respect to bureaucratic ideals, are generally viewed as uncritical as they are an exposition of ideal types. His writings on collegiality are well known in the area of university governance, and they are recognized as a challenge by many scholars. In the assertion of a pure, ideal type it is necessary to take a strong stand for that pure type, as the discourse would fall apart otherwise. In Weber's analysis of collegiality versus bureaucracy there are a few pointed observations about the weaknesses of collegiality. For this reason, most scholars analyze Weber as thoroughly hostile to collegiality, and it is difficult to read Weber without developing a negative perception of the systems that he analyzes as weak or lacking in some way. In the review of literature on Max Weber's position on collegiality, there are a few articles that provide positive commentary. The articles by Parsons, Waters and Samier reviewed

in the following section provide a progressive alternative perspective on Weber and collegiality.

Reference to Talcott Parsons's introduction to Weber's *The Theory of Social and Economic Organization* (1947) can be found in Malcolm Waters's Collegiality, Bureaucratization, and Professionalism: A Weberian Analysis. According to Waters (1989), "Parsons argues that Weber's analysis of bureaucratic organizations 'raises serious analytic difficulties' (1947, p. 58n) . . . , [and that] [t]hese difficulties are said to lie in the confounding of 'two essentially different types' of principle of authority" (p. 949), i.e. technical expertise versus rational, legal authority within an organization. This can be found in Parsons's discussion on the institutionalization of authority, and his analysis focuses on this type of dualism throughout the section. Parsons notes that even collegial groups, according to Weber, tend toward the leadership of a "primus inter pares" (Parsons, 1947, p. 57), and that they are organized around some form of authority. This points out some of the fundamental causes of conflict within large organized groups and underscores the nature of Weber's analysis as that of an ideal type. Parsons' analysis can be used to survey competing forces within an organization that theoretically should all be oriented toward one authority but in actuality are not always so oriented. Parsons goes further to defend the Weberian analysis of legitimate authority stating that "the exposition of his views in the text is highly schematic, neglecting many of the complications he himself called attention to" (Parsons, 1947, p. 60). What Parsons demonstrates in his introduction is a fair and relatively unbiased analysis of Weber's schematic exposition of bureaucracy, collegiality, and other forms of authority. His introduction also shows that Weber's analysis is not necessarily uncritical. It also points

out that there is conflict in pure bureaucracy similar to that of the conflict between collegiality and bureaucracy. Even within bureaucracy there exists the conflict between legal authority and expertise.

In Waters' Collegiality, Bureaucratization, and Professionalism: A Weberian Analysis there is a broad examination of Weber's analysis of collegiality vis-à-vis bureaucracy. The main point of the article is that collegial forms of governance coexist with bureaucratic organizations of many forms. While bureaucracy and collegiality are different forms of organization, "both are rational organizational forms that rely on the employment of technical expertise to realize specific goals" (Waters, 1989, p. 969). The collegial organization of academia, like other collegial organizations that developed since the rise of bureaucratic, state, and commercial influence in modern society, serves the expressed purpose of mitigating and resisting external control by the state and commercial interests. But "[t]he capacity of collegiality to resist bureaucratic encroachment is limited" by inefficiency and by the reliance on expertise that is ancillary to the consensus (Waters, 1989, p. 969). Nonetheless, "[e]verywhere collegial formations coexist with bureaucratic formations in organization" (Waters, 1989, p. 969), and internal conflict is a feature of this type of organizational structure. While Waters' article is an overall review of all collegiate types of organizations and not just academia, there are a few points made regarding administration in academic institutions. The author points out that academia is a key example of the collegial organizations that developed in order to combat external influences of the state and commercial interests–commercial interests that characterized the history of the struggle over academic freedom chronicled in the development of the AAUP. Waters (1989) also points out that "[i]t is noteworthy that

Weber does not recognize academic associations as collegial organizational forms but rather refers to academic associations 'of all sorts' as examples of direct democracy" (p. 960). Weber recognized the difficulties of classifying academic institutions as a pure type. This supports the analysis of a mixed type of organization in which bureaucracy and collegiality coexist, though not without a conflict that is natural to the arrangement.

Samier examines Weber's writings on bureaucracy specifically as they relate to collegiality in university governance. Samier also asserts that the Weberian analysis is both critical and positive pointing out that the pure type is a mechanism to examine the functioning of opposing types within one organization. As such, Samier demonstrates a constructive analysis for the blending of collegial and bureaucratic forms of governance. According to Samier, (and this is an important specifically in regard to academic administration) Weber is often understood as an "uncritical presentation of the 'bureaucratic model'" (Samier, 2002, p. 27), but this is not necessarily the case. "A comprehensive reading of Weber would demonstrate not only that he rather savagely criticized bureaucratized organization (e.g., see 1930: 182), but that he laid important foundations to political and cultural studies, analysed various forms of collegiality in his magnum opus, Economy and Society, and recognized ambiguity as fundamental to the human condition and its manifold social constructions" (Samier, 2002, p. 27)." Samier confirms much of Waters' analysis here. In Samier's analysis, Weber simply presents the pure type for the sake of analysis, and Weber recognizes that academic institutions are not pure types of organizations. In closing, Samier (2002) states that "[g]eneral conclusions that can be drawn from Weber's writings on education, administration, and leadership are threefold. First, educational systems require examining as they are

embedded in other social institutions—political, economic, religious, and legal" (p. 41-42). Both Samier and Waters analyze collegiality as coexisting or embedded in bureaucratic structures, and they suggest that conflict is to be expected based on struggles over legitimate authority.

Weber's writings on collegiality are found mainly in his Economy and Society, and the bulk of his discussion on collegiality is found in the section titled The Types of Legitimate Dominion. Here, he argues that authority is either rational, traditional, or charismatic, and that legal, rational authority, as found in bureaucratic forms of governance, is the superior method of governance. In this text, Weber also condemns collegiality as lacking, notably in the case of university governance. Weber defines bureaucracy as a type of "rational legal authority" in which "[a]dministrative acts, decisions, and rules are formulated and recorded in writing," and in which "[t]he combination of written documents and continuous operation by officials constitutes the 'office' (Bureau) which is the central focus of all types of modern organized action" (Weber, 2003, p. 18). According to Weber, bureaucracy is superior to other forms of authority because "[p]recision, speed, unambiguity, knowledge of the files, continuity, discretion, unity, strict subordination, reduction of friction and of material and personal costs—these are raised to the optimum point in the strictly bureaucratic administration. . ." (Weber, 2003, p. 21).

Weber was known to be critical of university governance, in particular, administration by university faculty. According to Roth, "[h]is articles and statements on academic improprieties, the general state of the universities and the need for university reform elicited the public counter-attack, at one time or another, of groups of professors

and officials of the ministries of education" (Weber & Roth, 1968, p. LVI). The topic of university governance is dealt with in a few areas, specifically in Economy and Society. Weber points out the origins of bureaucracy in the university as the need for resources. According to Weber "[t]he bureaucratic structure goes hand in hand with the concentration of the material means of management in the hands of the master" (Weber & Roth, 1968, p. 980). Weber's primary example of this is in the process of bureaucratization in modern militaries, but he also extends the discussion to public organizations and to the university stating that, "[i]n the field of scientific research and instruction, the bureaucratization of the inevitable research institutes of the universities is also a function of the increasing demand for material means of operation" (Weber & Roth, 1968, p. 983). Both the concentration of resources and a corresponding demand for those resources (an example in current terms being state funding for higher education) necessitate bureaucracy in the university.

Not only does Weber identify the source of bureaucratization in modern universities, but he also identified the scenario for inevitable conflict. In the case of university governance, Weber identifies this as a conflict between collegiality and bureaucracy, and points out some of its characteristics.

> Both immediate democracy and government by notables are technically inadequate, on the one hand in organizations beyond a certain limit of size, constituting more than a few thousand full-fledged members, or on the other hand, where functions are involved which require technical training or continuity of policy. If, in such a case, permanent technical officials are appointed alongside of

> shifting heads, actual power will normally tend to fall into the hands of the former, who do the real work, while the latter remain essentially dilettantes. A typical example is to be found in the situation of the annually elected head (*Rektor*) of the German university, who administers academic affairs only as a sideline, vis-á-vis the syndics, or under certain circumstances even the permanent officials in the university administration (*Kanzli*). (Weber & Roth, 1968, p. 291-292)

In this sense the loss of control in governance, even if it results from negligence on the part of academic leadership, will understandably lead to conflict. Economy and Society is the main source of Weber's writings that involve academic governance. Other writings on academic governance in general can be found in Weber's The Religion of China, where Weber casts doubt on whether legitimate authority is appropriate with regard to academic freedom (Samier, 2002). For further research, Samier (2002) cites an English translation of a collection of Weber's writings titled Max Weber on Universities (p. 29).

In presenting these pure forms of governance—bureaucracy and collegiality—we can easily see where conflict might arise. Collegiality is a form of democracy based on consensus and collaboration whereas bureaucracy is not democratic in nature. Bureaucracy relies on strict adherence to detailed rules, the knowledge of which resides in the professional expert. These two systems of governance develop very different modes of operation which include timelines for decision making and the completion of initiatives. In bureaucracies these timelines are part of the workflows and processes carried out by the professional staff of the organization. In the collegial organization the timelines are those of consensus and discussion which do not always adhere to the strict,

rational, and regimented order that characterizes bureaucracy. Yet these two opposing forms of governance are inextricably bound up in the university by the demand for concentrated resources and the necessity for a high level of autonomy.

Quantitative Studies

In a quantitative study, Prichard and Willmont (1997) offer an "empirically based exploration of some of the contradictions and struggles that make [corporatization of universities] unstable, partial and by no means inevitable" (1997 p. 287). Prichard demonstrates how performance management tends to impose the corporate model on academic administrators. Many of the responses in this study were about the managerial requirements for formal faculty/staff appraisals. This has resulted in making "academics and administrators more explicitly accountable as supervisors . . ." (Prichard et al., 1997, p. 298). They have had to resort to jumping through hoops over "new things" (Prichard et al., 1997). One staff response from a registrar was particularly telling.

> In the following extract, a Registrar from pre-1992 University 'D' represents the imperializing discourse of management as directive and authoritarian and sets this against what is seen as the natural collegiality of the university:
>
> "The culture is not one which welcomes the concept of direction. The whole culture of the academic community and I, I support all of this, is focused on the individual excellence or team excellence (and) the right of the individual to pursue what they feel they want to pursue. That is why anything which smacks of management starts to eke into, either emotionally or in reality into that very important freedom of the enquiring opportunity so that even if the management were to be of what one might call, non-academic areas, it would still be seen as a

beginning of a move to a different type of arrangement. (Pritchard et al., 1997, p. 301)

This demonstrates a level of extreme conflict as emphasis is placed on negative, critical terms. Phrases like "smacks of management" and "eke into" suggest a high level of emotionally charged disapproval. The remarks further suggest that there is no room for an opposing view. It is indicated that under the best of conditions, i.e. if bureaucracy was confined to bureaucratic matters only, that there would still be extreme disapproval and resistance. It is also clear that the struggle centers on academic freedom, and a concern for the restriction of academic freedom through bureaucratic controls.

In 2009, the Association of Governing Boards of Universities and Colleges published a summary of data from a survey completed by individuals at member institutions. The survey was a product of the Project on Faculty and Institutional Governance with support from the TIAA-CREF Institute. This survey focused on barriers to faculty governance, mainly in the areas of personnel and tenure and institutional autonomy. The constituency of personnel and their relationship to governing boards was the primary focus of the study, but one barrier cited in the comments was "hyper-negative attitudes of most senior faculty toward anything remotely resembling modern corporate governance" (Schwartz, 2009, p. 17). This brings into focus the issue of accountability as an important part of institutional wellbeing. As will be seen, the measures for managing public scrutiny is the clean audit; however, getting there is the struggle. According to Schwartz,

Greater public scrutiny of higher education policies and practices is likely to persist, and governing boards, presidents, and faculty need to respond

> thoughtfully and effectively. They also need to address together the circumstances that prompt scrutiny, examine how they conduct themselves, and act where change is warranted. (Schwartz, 2009, p. 3)

Since the mechanism of a clean audit is in the bureaucratic controls of a corporatized institution, the persistent mention of scrutiny and accountability throughout the study demonstrates that the friction over bureaucratic procedures plays an important role in the overall barriers to faculty governance.

The Institutional Data Archive on American Higher Education, 1970-2011 is a product of the Colleges & Universities 2000 project funded by the by the National Science Foundation in 2000. "The Institutional Data Archive consists of longitudinal and cross-sectional data on 384 institutions drawn from 24 separate data sets . . ." covering data "organized in a panel design covering the period 1970-2010 with entries every five years" (Colleges & Universities 2000). The project was designed "to investigate patterns of continuity and change in American four-year colleges and universities over the period 1970 to 2010" (Colleges & Universities 2000). The data covers information on programs and degrees, degrees earned, enrollment data, library information, research information, financial information and census data (Brint, 2013). In academic year 2000-2001 and 2012-2013 surveys were sent to Presidents and Chancellors, and to Provosts and Academic Vice Presidents. Several questions in these surveys focused on governance and on organizational structure. The following are the questions found in the Colleges & Universities 2000 surveys from 2001 and 2012. They were associated with verbal responses that contained language such as "bureaucracy" or connotations to top down imperatives like "state guidelines."

Here are several responses that underscore the conflict between bureaucracy and collegiality. (In the data source this is coded "budchlgp01" and "budchlgp12.") Responses to the question "What are the most important budgetary challenges you face?" (Brint, 2013) include:

1. "Working with state to find ways to cope with constraints of constitutional amendment that limits available resources" (2001)
2. "increasing bureaucracy of our university sustem" (2001 typo in original response)
3. "performing well under performance funding" (2012)

Responses to the question, "In pursuing programmatic priorities, what are the most important constraints on your actions to affect change?" (Brint, 2013) include:

1. "Statewide fiscal policies and constitutional amendments" (2001)
2. "lack of administrative flexibility in [deleted] State public higher ed." (2001)
3. "increased federal regulation reporting" (2012)
4. "priorities of general assembly/official legislation" (2012)

(In the data source this is coded "constprgl01" and "constprgl12.") This demonstrates how evidence of the conflict between collegial and bureaucratic governing units is found in quantitative data sets.

Academic Leadership and Non-Academic Staff

There is a large body of literature on academic department leadership, and most of these texts cover the topic of non-academic staff. Academic department leaders routinely interact with non-academic staff, and it is recognized as a type of interaction quite

different from the collegial interactions among faculty. It has been noted by many scholars that the literature on non-academic staff is limited. The increase in non-academic staff on university campuses has been recognized as a recent phenomenon and is beginning to gain the attention of researchers. Some of the major concerns of this literature are the staffing, leadership, and corporate structure of the university; non-academic staff wellbeing; pay scales, and requisite job skills along with their related job descriptions.

In the university, non-academic staff are the personnel who perform the non-instructional, non-research oriented tasks. These are the employees who have taken on "the responsibility for the day-to-day non-instructional activities of virtually every higher education institution" (Liebmann, 1986, p. 2), and according to Liebmann the categories of non-academic staff include clerical and secretarial staff, administrative support staff, and a variety of professional staff in budget, human resources, student services, and tech support. This is a category of university staff that was virtually nonexistent until the last quarter of the twentieth century. As corporatization increases in the university, so have the responsibilities and the workload of non-academic staff. "Once support staff comprised secretaries and, in some subjects, technicians. Technicians remain, ICT experts are now common in larger departments and secretaries have almost everywhere become administrative personnel rather than typists, although it is questionable whether their pay has reflected the increased complexity and demands of their work" (Knight & Trowler, 2001, p. 138).

A particular problem for non-academic university staff is that of adequate and appropriate engagement. Though their duties have increased their role is still largely

underestimated or misunderstood by academic leadership. One example can be seen in the following passage from Knight and Trowler's Departmental Leadership in Higher Education.

> [I]t is good leadership practice to respect people's expertise, to ask for their advice, to involve them in decisions, to encourage them to manage the ways in which they get the work done, and to be considerate. This implies: flexibility in office hours; inviting them to attend departmental meetings, seminars and other events; and asking their advice about how things could be done better and their work made easier. (Knight & Trowler, 2001, p. 139)

Here the emphasis is on leadership practice alone. It is clear that respecting people's expertise, inviting them to meetings, and being considerate are all done for the sake of being a good leader rather than capitalizing on the strengths of a professional staff. The proper engagement of staff is not the true consideration in this case. In addition, as Knight and Trowler describe staff duties as "more prescriptive than they are for academic staff" we see that with regard to the roles and functions of non-academic staff in the university, their analysis is couched in collegial terms (Knight & Trowler, 2001, p. 139). This underscores the dichotomy of bureaucracy and collegiality, especially with respect to non-academic staff. The bureaucratic nature of support staff work is noted as "less under their control" (Knight & Trowler, 2001, p. 139), and this tends to be an academic-faculty oriented point of view.

It has been noted that "[t]he role of administrative staff in the educational experience for students has been generally ignored in academic research" (Pitman, 2000, p. 165). There are two main reasons for this disregard of administrative staff: first,

universities tend to focus on teaching, and second, academics produce research. According to Pitman, "[t]his is not surprising, for two reasons. Firstly, universities, naturally, remain focussed on teaching and research, with the administration tasks existing to facilitate these aims. Secondly, most of what has been written is done so by academics, who focus on the areas that concern them the most" (Pitman, 2000, p. 166). Pitman calls this an oversight, but this is not to suggest that non-academic staff should be considered something that they are not, rather it suggests that there is an underlying bias that is an impediment to the research on the proper engagement of non-academic staff. Their functions cannot be thoroughly dismissed or dealt with in superficial ways, nor should they be overstated. True engagement needs to be realized and it needs to be addressed in the literature on academic leadership. This demonstrates an area for growth and development in the literature.

The subject of non-academic staff is primarily a leadership topic in the literature. It is presented as a subject in texts on departmental leadership where the target readers are academic faculty in administrative or leadership positions. Generally the literature tends to be nominal, superficial, or glib, if not uncomfortably obligatory. There are a number of reasons for this including the same reasons for gaps in the literature on non-academic staff in general pointed out by Pitman, i.e., faculty are usually the ones doing the research and universities are inherently oriented toward instructional and research concerns (Pitman, 2000). This could indicate an area for potential growth and improvement in university governance.

Organizational and Workflow Analysis

Part of the methodology for this project is grounded in the study of Business Process, a discipline that began with Adam Smith's 1776 account of workers in a pin factory (Cho, 2013; Wohlhaupter, 2012). Workflows are the conceptualizations of business processes, and Business Process has evolved over the course of the industrial revolution and the progressive era (Leonard, 2015) to become a multifaceted field of study. Major contributors to this field include Frederick Winslow Taylor who's analysis of manufacturing processes represents the epitome of scientific management of the Progressive Era (1885-1915) (Leonard, 2015), and Peter Drucker whose career spanned the second half of the 20th century and whose last works were published in the early 2000's. Drucker is well known for his association with outsourcing. According to L. Cooper (2013) "[h]e is known for some key concepts, like outsourcing, decentralization, knowledge-based work and the practice of management" (p. 21) and he predicted the rise of outsourcing (Sandrick, 1996). This is key to the current study, not only because of the organizational theory represented in Drucker's work, but because outsourcing is the direct link to the development of outsourced helpdesks and call centers along with the subsequent need for knowledge management systems in these circumstances.

Business Process Management is a subset of Business Process, and it encompasses workflows and knowledge management. These are generally referred to as "management systems" and include process management systems and management information systems (MIS). A workflow is a "sequence of industrial, administrative, or other processes through which a piece of work passes from initiation to completion" (Workflow, n.d.). It is also defined as "[t]he automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to

another for action, according to a set of procedural rules" (Wohlhaupter, 2012, p. 6). For university business processes the workflow mainly refers to the transfer of documents involved in the management of university resources; usually fiscal or human resources. In the public university system this requires the transfer of detailed information regarding stakeholder regulations, whether it be the federal government in the case of financial aid, or state governments in the case of the use of state funds. In this way, knowledge management becomes a key aspect of an efficient workflow within a university. Knowledge management is the "[e]fficient handling of information and resources within [an] . . . organization" (Knowledge Management, n.d.), and the sharing of information is an integral part of any administrative workflow. In the case of public universities this means that the knowledge of state and federal rules, regulations and guidelines are an important part of the workflow. Most of the information on workflow is found in the literature on process management.

Epstein (2014) demonstrates how workflows function, and according to this author, project management is a complex business function that requires some perspective on its multifarious moving parts. A workflow allows management to view these parts and how they are related. In a thesis by Wohlhaupter (2012), the relationship between business process management, workflow, and knowledge management is demonstrated along with an excellent history. This thesis uses a bibliometric method in which "one can, in general, analyze scientific publications quantitatively. With advanced bibliometric methods one can also analyze networks among researchers or try to detect thematic clusters in scientific fields" (Wohlhaupter, 2012, p. 1). In Wohlhaupter's thesis, in the relationship between Business Process Management and the field of Knowledge

Management we find a Customer Relationship Management (CRM) cluster, a Knowledge Management cluster, and a Workflow Management cluster of research. The field of academic management and leadership is not analyzed but there are connections to knowledge management according to Staškevičiūtė (2006). Academic leadership can benefit from the use of knowledge management in mission development and the larger picture of organizational goal setting, but this area of the literature on the application of knowledge management in higher education reflects an orientation similar to that of the literature on non-academic staff. There is a focus on the bigger picture and on academic leadership by academics, but it does not address the engagement of ground level staff.

Knowledge management in customer relations management (CRM) represents the synthesis that contains the development of a knowledge base for academic institutions. A chapter by Luck found in Russ (2010) describes knowledge management as "a continuous learning loop (McDonald, 1998)" (Russ, 2010, p. 341), and states that "[i]n more implicit marketing terms, databases can be extended to form an extensive and multi-levelled process (Tapp, 2001)" that allows companies to coordinate the activities of sales and service (Russ, 2010, p. 341). This application of knowledge management is nowhere more prevalent than in the modern inbound call center helpdesk. The next section deals with Knowledge Management and its application in the area of Helpdesk Technology.

Helpdesk Technology

The field of helpdesk technology has grown over the last few decades, especially as Information and Communication Technology has evolved and as e-commerce has exploded into a vast industry. As companies like Amazon and eBay sell to a world-wide

market the need for cost effective and efficient customer service solutions has increased. The industry has addressed the issue of cost effectiveness through decentralizing and outsourcing customer service to external call centers or to "home-based agents" (Alorica@home, 2010). The industry has also dealt with the issue of efficiency through the development of branching scripts that guide the customer service representatives through incident control (Marquis, 2007), (Beasty, 2006), (Sharp, 2003). A branching script is a set of written responses to progressive questions. Helpdesk personnel engage customers using the series of questions in response to inquiries. A customer calls with an inquiry and the helpdesk representative follows up with a series of diagnostic questions. At each level of questioning there is a new "branch" in the script depending on the customer's response to the question. The topics of helpdesk technology that are relevant to this study include sales scripts or branching scripts, diagnostic scripts, expert systems, and emergency management scripts that allow decentralized non-expert staff to quickly manage incident control. These are the types of tools that allow non-expert staff to function as experts by offering a direct connection to specialized knowledge while addressing inquiries. The type of literature on this topic is distinguished from the literature reviewed so far in that it is typically not scholarly in nature. It is largely commercial, intended to instruct or train employees, or to disseminate information to the public about company operations and products. The literature includes information from company websites and from online articles.

There is a body of literature on call center management that includes information on branching scripts. Sharp describes newer technologies that "to guide the customer through a series of screens according to a script" (Sharp, 2003, p. 52). This type of tool

used by customer service representatives is described as "walking [customers] . . . through trouble-shooting steps and get[ing] them to a solution as quickly as I can," or "navigat[ing] them through the sales process" (Alorica@home, 2010). According to Marquis (2007), "a script is an expert system using structured questions to collect data. Scripts let non-experts make expert decisions (p. 1). Furthermore, scripts can be developed and improved upon through an ongoing process of review of their performance and subsequent revisions affected by process managers. According to Marquis "[m]any common Service Desk software tools and products support computerized scripts" (Marquis, 2007, p. 2), and there are best practices for starting, developing, and maintaining scripts. Marquis defines a method that involves the assembly of a scripting team that focuses on "a category of Incident that often slips past or escalates" (Marquis, 2007, p. 3). It also focuses on the use of knowledge bases and their management. An additional branch of literature on scripted inbound call responses can be found in the area of Emergency Management. Sales scripts bear a lot of resemblance to flip charts used by Emergency Management personnel. For additional information Knight and Floray review several types of flip charts that serve as guided scripts for reference during specific emergencies.

Summary

The literature confirms that there is a lot of dissatisfaction with loss of academic freedom and autonomy due to the corporatization of the modern university. Scholars who comment on the state of bureaucracy in higher education point out that the processes of bureaucracy are a burden and are often used in conjunction with limits to autonomy. Weber had insights into the matter as well, though on a broader, societal level. The iron

cage thesis is a very strong statement for academic freedom, but we can also see the strongest of criticisms in his statements on administration by university faculty. In defense of Weber, while his work is uncritical it should be understood as uncritical: a speculative study of a pure nature of bureaucracy and a pure nature of collegiality. In a pure bureaucracy there is no room for leadership or political maneuvering (Samier, 2002). It has a strict regimen for authority and an efficient timeline for workflows. Collegiality is a contradiction of bureaucracy in Weberian terms. This democratic process has no regimen for authority other than negotiation. Furthermore, the timeline for a workflow is at whatever time a consensus is reached, and perhaps the greatest occasion for conflict is in the timing of a workflow.

Review of the literature also confirms that, while scholars recognize a connection between dissatisfaction with governance and the rise of bureaucracy in the university, there is not a connection between this same dissatisfaction and the role that the non-academic staff play in the management of bureaucratic workflows. Even scholars agree that until recently the literature on non-academic staff in general was virtually nonexistent (Liebmann, 1986). Since the rise of New Public Management there has been a growth in this area but the literature on non-academic staff is still limited to a leadership issue only. There are two factors that may affect this gap in the literature; first, the primary role of the university is instruction and research, and second, academics are the ones who contribute to the literature. As a result of this lack in the research on governance, a unique solution to the conflict between collegiality and bureaucracy may be obscured. Helpdesk technologies have been used more and more over the last few decades, and one primary use is to introduce efficiencies into workflows. This is mostly

in the area of customer service, but the mechanisms allow non-experts to function as experts and to thereby deliver immediate information outside of the system.

Chapter III

METHODOLOGY

Introduction and Overview

The purpose of this research was to define cases where deficiencies in knowledge sharing between the bureaucracy and the academic faculty in a university had increased faculty dissatisfaction with corporate style university governance. This was intended to demonstrate a need for improved systems of knowledge sharing, and to explore the option of branching scripts and knowledge bases as a way to improve workflows between collegial and bureaucratic units within the university system. If a case could be identified in which low levels of knowledge sharing resulted in faculty dissatisfaction with corporate style governance, then that case would demonstrate the need for an improved system of knowledge sharing.

A mixed methods approach was used in this research, with a case study as the qualitative element and a survey as the quantitative element. "Qualitative research is particularly useful and well suited to discovering important variables and relationships, to generating theory and models, particularly uncovering possible causes and causal mechanisms" (Remler, 2015, p. 60). The topic of inquiry in this study was the causal relationships related to an organizational behavior that occurs in public higher education. For this research the case study methodology was particularly useful as it can "contribute to our knowledge of individual, group, organizational, social, political, and related

phenomenon" (Yin, 2014, p. 4). According to Creswell (2015), when researchers combine qualitative and quantitative data, the "collective strength provides a better understanding of the research problem than either form of data alone" (p. 2). Yin (2014) offers the following guidance regarding the use of a survey and a case study: "Multimethod studies can pose complementary questions that are to be addressed by different methods. Most commonly, case studies are used to gain insight into explanatory processes, whereas surveys provide an indication of the prevalence of phenomenon" (p. 194). The results of this study were not generalized to other workplaces, rather they were used to identify the case as *faculty and staff in a corporatized university who notice conflict along workflows*. The level of prevalence measured by the survey can be used to advise management, both academic and bureaucratic (Yin, 2014, p. 111-112).

"Case study evidence may come through six sources: documents, archival records, interviews, direct observation, participant-observation, and physical artifacts" (Yin, 2014, p. 102). This case study utilized three sources of evidence: archival records in the form of literature, direct observation by the researcher, and a survey sent to UWG faculty and staff. "[A] major purpose of such an interview might simply be to corroborate certain findings that you already think have been established" (Yin, 2014, p. 111). In the current study a survey interview was used to corroborate information found in the literature. As such, this study uses what Creswell (2014) calls a convergent parallel mixed method. This is a "form of mixed methods design in which the researcher converges . . . quantitative and qualitative data in order to provide a comprehensive analysis of the research problem" (Creswell, 2014, p.15).

Yin (2014) posits a 5 section case study methodology that includes 1) study questions, 2) study propositions, 3) units of analysis, 4) logic linking the data to the propositions, and 5) criteria for interpreting the findings (Yin, 2014, p. 29). In this study, Yin's procedure was reviewed, giving the context, sample selection, data collection and time frame. Credibility, confirmability, dependability and transferability are also addressed in reference to this study. These concepts are standard methods for evaluating the quality of a qualitative research design (Yin, 2014). Briefly, credibility evaluates quality the answers given by survey respondents, whether or not they are giving truthful or credible answers, while confirmability evaluates the bias (or credibility) of the researcher themselves. Dependability and transferability have to do with the quality of research procedures, whether or not they are dependable in the current study, or if they can be transferred to another context to find the same results (Amankwaa, 2016; Connelly, 2016). Since the observations are from the researcher, a researcher's statement is included.

Research Objectives

The objectives of this study are as follows:

1. First Objective–To define a case where deficiencies in knowledge sharing between the bureaucracy and the academic faculty in a university has increased faculty dissatisfaction with corporate style university governance.
2. Second Objective–To assess the perception of the level and quality of access that Academic Affairs' departmental staff have to the bureaucratic

expertise in the Business and Finance departments of Human Resources, Budge Services, Purchasing and The Controller's Office.

3. Third Objective–To confirm the case at UWG by determining if there is a relationship between negative/positive perceptions of academic department access to bureaucratic expertise and negative/positive perceptions of faculty governance among faculty at UWG.
4. Fourth Objective–To demonstrate the need for a decision tree and knowledge base in order to facilitate access to bureaucratic expertise.

Research Design

Study Questions

According to Yin (2014), study questions are what guide the researcher in determining an appropriate methodology. From the spectrum of "who," "what," "where," "how," and "why," "[c]ase study research is most likely to be appropriate for 'how' and 'why' questions . . ." (Yin, 2014, p. 29). These questions are not easily developed, and often researchers find that questions are already covered in previous research (Yin, 2014). For this study there are three study questions, and they are both appropriate for a case study methodology, and they focus more finely on answers not found in the current research. The study questions are:

1. Is there a perceived need throughout the workflow in an academic institution for the facilitation of access to bureaucratic expertise?
2. How would the organizational structure of the University of West Georgia support the implementation and management of a decision tree and knowledge base for ground level academic department staff?

3. How would the organizational structure of a similar institution support the implementation and management of the same decision tree and knowledge base?

The first study question is essentially a "why" question as it is intended to determine a cause (why) for a specific case (the perception of conflict as a result of limited knowledge sharing). The questions aim at answers that are not already covered in current research based on the gap in the literature discussed in chapter 2. According to Yin (2014, p. 193) the filling of voids in previous research is an important function of a good case study.

Study Propositions

According to Yin (2014), study propositions focus the study and provide appropriate direction. In examining the complex topic of academic governance and the proper engagement of non-academic staff in the context of those processes, such propositions are necessary. For this study there are four propositions:

1. Low levels of knowledge sharing between experts in the bureaucracy, and ground level staff in the academic departments of a corporatized public university contribute to faculty dissatisfaction with corporate style governance.
2. Faculty dissatisfaction is increased when collegial initiatives are halted after the bureaucratic vetting process.
3. Faculty dissatisfaction is based on what is perceived to be an unreasonable length of time.

4. The timeframes for processes deemed "unreasonable" are, in fact normal and reasonable.

Units of Analysis

Units of analysis are fundamental in defining a case (Yin, 2014). For a case study involving organizational behaviors, individuals or groups of individuals within the organization are the units of analysis. For this study there were two units of analysis. First, individual respondents were the basic unit of analysis. This unit was used to identify cases where individuals within the specified workflows noticed low levels of knowledge sharing and high levels of conflict between faculty and bureaucracy associated with that workflow. Conversely, a case may be identified where high levels of knowledge sharing and low levels of conflict between faculty and bureaucracy are associated with the same workflow. The second unit of analysis were the categories of respondents. There were 5 categories of respondents in this study: 1) faculty administrators, 2) ground level academic department staff, 3) dean's office staff, 4) provost's office staff, and 5) business office staff. These categories represent the stages of workflows that start with the collegial decision of faculty administrators and end with vetting by a bureaucratic unit of the university. The same case was identified within these categories as a whole through the use of descriptive and correlational statistics. The descriptive statistics included percentages of responses that indicated prevalence of the case while the correlational statistics used the Pearson *r* to indicate the strength of the correlation between low levels of knowledge sharing and high levels of conflict at the category level.

Logic Linking Data to Propositions

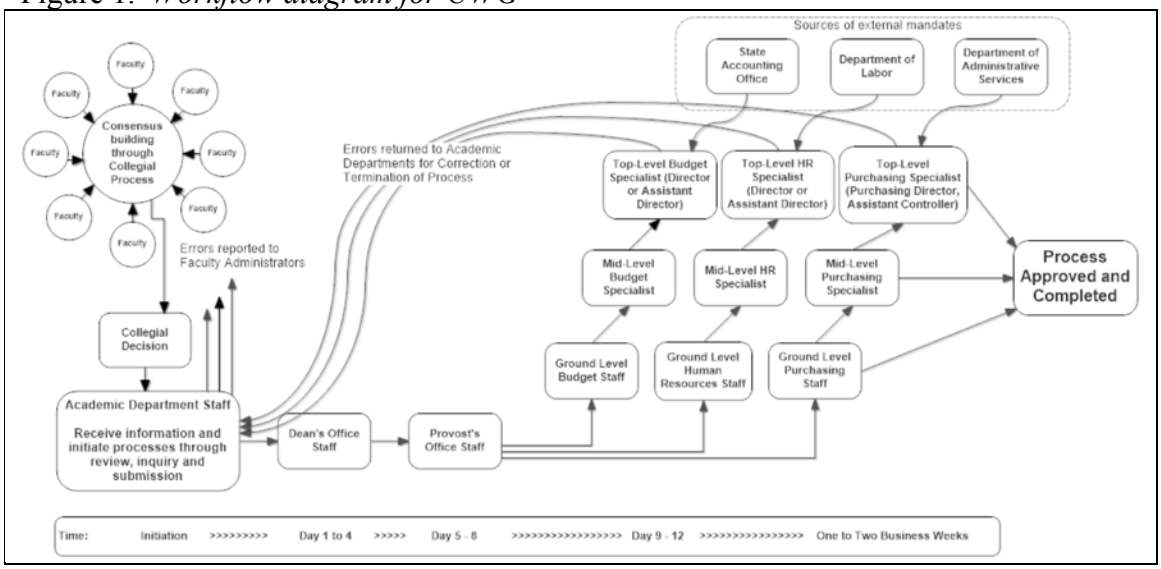
The linking of data collected in a case study is accomplished through data analysis. For this study, the logic linking the data to the propositions were fourfold. First, a workflow diagram was used as a logic model (Figure 1). This workflow represents the process for submitting budget amendments, personnel action requests, and purchase orders at the University of West Georgia. At the beginning of the workflow, faculty administrators make collegial decisions about budgets, personnel actions, and purchase requests. When a decision is made by the faculty the work passes to the department staff–in most cases this will be a departmental assistant who is a generalist and who is at a paygrade 3 out of 15. These are employees who are not required to maintain specialized knowledge, but who are the main line of communication between bureaucratic specialists and collegial decision makers. These employees occupy a position in the workflow that is a focal point for conflict due to limitations in knowledge sharing from bureaucratic expertise at the end of the workflow.

Second, the analytic priorities suggested by the study propositions served as logic linking the data to the propositions (Yin, 2014, p. 136). The analytic priorities are:

1. Expressions of conflict such as frustration or dissatisfaction, especially in areas of the workflow that are near the focal point
2. References to knowledge of processes and their connection to conflict
    a. In a single response, from one respondent (unit of analysis 1)
    b. Or present as part of a department's overall responses (unit of analysis 2)

Third, data coding was based on descriptive statistics. Responses were categorized by percentages and averages. Finally, pattern matching was used to link the

Figure 1. *Workflow diagram for UWG*



data to the propositions. This was done for both qualitative and quantitative data. Pattern matching for the qualitative data focused on expressions of conflict that matched those found in the literature. Pattern matching for the quantitative data focused on patterns between the descriptive and correlational statistics.

Criteria for Interpreting the Findings

For case studies, the criteria for interpreting the findings is to adequately address rival theories (Yin, 2014). As the case study is unique in time and place, there are no rival theories that deal directly with the case study findings. This criteria was met by stating the rival theories in the form of hypotheses. Stating the rival theory as a null hypothesis allowed the researcher to interpret the findings as the existence non-existence of the case.

Procedure

The procedure for this case study involved three elements; the establishment of the context from direct observations by the researcher, the sample selection, and the data collection through a survey of the literature and a survey of employees at the University

of West Georgia. To further qualify the use of direct observations: according to Yin, direct observations by the researcher are relevant data because of the "real-world setting of the case . . ." (Yin, 2014, p. 113). Furthermore, these "observations can range from formal to casual data collection activities" (Yin, 2014, p. 113). For this case study the direct observations occurred in two stages: 1) the onsite observations of the use of knowledge bases and branching scripts, and 2) the onsite observations of conflict stemming from low levels of knowledge sharing between bureaucratic expertise and academic administration in a public university setting.

Context

The context in this study is defined by who or what is immediately outside of the group or the case in question. The case for this study is defined as *faculty and staff in a corporatized university who notice conflict along workflows associated with knowledge sharing*. According to Yin the procedure for identifying the context is to define who or what is in the group or case, and who or what is directly outside of the group or case. This is known as "*bounding the case*" (Yin, 2014, p. 33). For this study, the context was defined as: faculty administrators, the non-academic staff who initiate processes for those faculty administrators, and the non-academic staff who are part of the workflow for those processes. An additional note about the case; within the context of *faculty administrators, the non-academic staff who initiate processes for those faculty administrators, and the non-academic staff who are part of the workflow for those processes* there are two extremes: faculty administrators and bureaucratic experts. This can be seen in Figure 1 with faculty administrators at the beginning of the workflow, and

bureaucratic experts at the end. While faculty dissatisfaction is one side of the equation in this case, bureaucratic willingness or ability to share knowledge is the other side.

Sample Selection

The sample selected for this study was from 263 employees at the University of West Georgia. The total sample size was n = 75 and was divided into 5 categories based on responses to the following survey questions:

1. Faculty Administrators–I am a faculty member serving in an administrative role (department chair, dean, associate dean, provost, etc.). I approve decisions for this process, based on departmental needs. (n = 25)
2. Business Office Staff–I am a staff member in the Business and Finance division. I work with the final submitted documents for these three processes. (n = 21)
3. Dean's Office Staff–I am a staff member working in a dean's office (this includes assistant dean (staff) positions), but I am not the dean, or associate dean. I review submissions for these processes and inform the approver. (n = 9)
4. Ground Level Academic Department Staff–I am a staff member working in an academic department (chemistry department, history department, etc.), but I am not the chair of that department. I initiate these processes. (n = 16)
5. Provost's Office Staff–I am a staff member working in the provost's office but I am not the provost, assistant provost, associate provost etc. I review submissions for these processes and inform the approver. (n = 4)

This organizational study examines the workflow structures and the perception of access to bureaucratic expertise throughout those workflows between the academic departments and the business office at the University of West Georgia. The University of

West Georgia (UWG) is one of the four comprehensive universities in the University System of Georgia (University System of Georgia). UWG had an enrollment of over 13,000 students during the 2016-2017 academic year, but in comparing the enrollment over the last two decades there has been a period of growth that has had an impact on the organizational structure and workflows of the institution. Processes that may have worked for an institution with 8,900 students in 2000 are no longer efficient for a university with over 13,000 students (Historical Enrollment, 2015). As a growing institution, UWG underwent a modernization of its business practices starting in the late 2000s. Forms and procedures along with workflows were transformed to reflect a more corporate scheme. At the same time, major advancements in Information and Communication Technology were taking place. Document sharing and corporate reliance on email and web based communications paved the way for less reliance on printed forms, and a transition to electronic media was well underway. The last printed copy of "The Scoop," the university's published guide to semester events was issued in early 2000's. Now this publication is exclusively online.

The major divisions of the university include The Office of the President, The Division of Academic Affairs, The Division of Student Affairs, The Division of University Advancement, The Division of Business and Finance, The Office of Research and Sponsored Projects, The Office of Legal Services, and the Office of the Chief Information Officer (University of West Georgia, N.D.). This study examines the workflows and the accessibility and transfer of a special type of organizational knowledge between two of these units; The Division of Academic Affairs and the Division of Business and Finance.

Data Collection

For this study, data was collected from three general sources; academic literature that indicated the presence of faculty dissatisfaction with corporate style governance of the university, direct observations of the researcher, and a survey of administrative faculty and non-academic staff at the University of West Georgia. The academic literature consisted of articles and survey studies written and conducted within the last 40 years. All of the literature was accessed through GALILEO or through the Chronicle of Higher Education. The data was analyzed in the following way. Basic one-word search terms were documented. The terms were:

University

Governance

Faculty

Dissatisfaction

Then the search terms were combined into sequences and additional terms were added. The additional terms were:

Corporate

Corporatization

Management

Qualitative data was gathered from published articles to demonstrate similarities and differences in article content. These were used to compare the content of the UWG survey responses with the content found in the literature in order to further define the context for the case.

The researcher's observations took place in two stages. First, there was a historical observation of the use of branching scripts and knowledge bases while training onsite. This observation was from past experience of the researcher. Second, there was a contemporary observation of the development of conflict between faculty and bureaucracy in a public university. Between 2008 and 2017 the researcher observed a number of incidents that lead to feelings of conflict between faculty and bureaucratic staff. The incidents involved limited sharing of knowledge between bureaucratic experts and the ground level staff in academic departments.

The survey in this study was based on several existing survey instruments including Brint (2009) *Institutional Data Archive on American Higher Education, 1970-2011*, the annual *Engage West* survey at the University of West Georgia, and the *Comprehensive Administrative Review* administered by the University System of Georgia. The survey is also informed by the observations of the researcher.

Apparatus: Survey Instrument

A survey was used to determine these basic data points as they exist in the organizational workflow: 1) the perceptions of the accessibility of bureaucratic expertise at the academic department level, 2) academic department and non-academic department staff perception of conflict between collegiality bureaucracy along the workflows, and 3) the receptiveness of academic department and non-academic department staff to external input to their personal work processes. These data were evaluated at several points throughout the workflow in order to assess a need for increased accessibility of specialist level knowledge at the academic department staff level. These points in the workflow were 1) faculty administrators, 2) academic department staff, 3) dean's office and provost

Figure 2. *Survey questions part 1*

1. Budget amendments, hiring proposals and purchasing requests all follow a workflow that starts at the department level and moves up through various stages of approval. Please indicate your point in the workflow for the approval of budget amendments, hiring proposals and purchase requests.

    - I am a staff member working in an academic department (chemistry department, history department, etc.), but I am not the chair of that department. I initiate these processes.
    - I am a faculty member serving in an administrative role (department chair, dean, associate dean, provost, etc.). I approve decisions for this process, based on departmental needs.
    - I am a staff member working in a dean's office (this includes assistant dean (staff) positions), but I am not the dean, or associate dean. I review submissions for these processes and inform the approver.
    - I am a staff member working in the provost's office but I am not the provost, assistant provost, associate provost etc. I review submissions for these processes and inform the approver.
    - I am a staff member in the Business and Finance division. I work with the final submitted documents for these three processes.

office staff, 4) ground level business office staff and 5) business office specialists. Finally, the analysis assessed the perception that the lack of access to bureaucratic expertise at the department level negatively affects attitudes toward faculty governance. In this way the analysis explored the necessity for a decision tree that will connect academic department staff to bureaucratic expertise.

The first part of the survey collected the organizational data that established the respondent's location within the workflow for an identified process. This survey question is seen in Figure 2. Special attention was given to identifying supervisors and directors versus ground level staff in the business office. In the academic departments, the survey was given to ground level staff and administrative faculty only, as general faculty attitudes toward corporate style bureaucratic governance are well documented in the literature. The identified processes were: 1) UWG's process for hiring a new full

Figure 3. *Survey questions part 2*

13. In the budget amendment process, please rate what you think is the level of understanding and knowledge of Business and Finance processes and procedures at the academic department level. (Academic departments are: Department of Art, Department of Chemistry, etc.)

    - o Complete knowledge
    - o A reasonable amount of knowledge
    - o Some knowledge
    - o Below average knowledge
    - o Absolutely no knowledge

16. In the process for hiring a new staff line, please rate what you think is the level of understanding and knowledge of Business and Finance processes and procedures at the academic department level. (Academic departments are: Department of Art, Department of Chemistry, etc.)

    - o Complete knowledge
    - o A reasonable amount of knowledge
    - o Some knowledge
    - o Below average knowledge
    - o Absolutely no knowledge

19. In the process for submitting non-routine purchase requests for items that require additional review and explanation, please rate what you think is the level of understanding and knowledge of Business and Finance processes and procedures at the academic department level. (Academic departments are: Department of Art, Department of Chemistry, etc. A non-routine purchase is something that would not normally be purchased with state funds.)

    - o Complete knowledge
    - o A reasonable amount of knowledge
    - o Some knowledge
    - o Below average knowledge
    - o Absolutely no knowledge

time staff line, 2) UWG's process for submitting a budget amendment, and 3) UWG's process for purchasing food or other special items with institutional funds. These are all processes that require specialized expertise from Human Resources, the Controller's Office, or the Budget Office.

The second part of the survey assessed the perception of access to bureaucratic expertise. It contained the same question for each of the three processes reviewed in the study. The survey questions are seen in Figure 3 on the previous page. The same survey question was presented for the Budget Amendment Process and the Process for Non-routine Purchases (such as food, or other specialized items) With Institutional Funds.

The third part of the survey assessed the perception of the existence of conflict between collegial governance and bureaucratic governance. It identified Academic Faculty as the constituents of the collegial governing body, and Non-Academic Staff as the constituents of the bureaucratic governing body within the university. The survey questions in part three are seen in Figure 4 on the following page.

Survey Hypotheses

The hypotheses for the survey findings are:

H_1 = There is a positive correlation between *deficiencies in knowledge sharing* and *perceptions of the presence of conflict* between academic faculty and business office.

H_0 = There is no correlation between *deficiencies in knowledge sharing* and *perceptions of the presence of conflict* between academic faculty and business office.

H_a = There is a negative correlation between *deficiencies in knowledge sharing* and *perceptions of the presence of conflict* between academic faculty and business office.

Note that for correlations, we are proving that the results are not based on randomness within the standard distribution. Therefore, the null hypotheses is represented by the area

Figure 4. *Survey questions part 3*

Questions to staff respondents:

25. Please rate the level of conflict that you perceive in your interactions with academic faculty in the budget amendment process.
    - o No conflict
    - o Some conflict
    - o Moderate conflict
    - o Above average conflict
    - o Extreme conflict

26. Please rate the level of conflict that you perceive in your interactions with academic faculty in the process for hiring new staff.
    - o No conflict
    - o (Etc.)

27. Please rate the level of conflict that you perceive in your interactions with academic faculty in the process of making non-routine purchases.

Questions to faculty respondents:

28. Please rate the level of conflict that you perceive in your interactions with Business and Finance staff in the budget amendment process.
    - o No conflict
    - o Some conflict
    - o Moderate conflict
    - o Above average conflict
    - o Extreme conflict

29. Please rate the level of conflict that you perceive in your interactions with Business and Finance staff in the process for hiring new staff
    - o No conflict
    - o (Etc.)

30. Please rate the level of conflict that you perceive in your interactions with Business and Finance staff in the process of making non-routine purchases.

under the main curve, and H_1 and H_a are represented by the areas under the tails.

Furthermore, H_1 is the positive tail for a positive correlation, while H_a is the negative tail.

Figure 5. *Survey questions part 4*

31. How comfortable are you with making your work processes public to your coworkers?

    - Extremely comfortable
    - Somewhat comfortable
    - Neither comfortable nor uncomfortable
    - Somewhat uncomfortable
    - Extremely uncomfortable

32. How comfortable are you with making your work processes public to your coworkers, and open to private suggestion?

    - Extremely comfortable
    - (Etc.)

33. How comfortable are you with making your work processes public to your coworkers and open to public suggestion?

34. How comfortable are you with making your work processes public to your coworkers, and being required to change them based on private oversight?

35. How comfortable are you with making your work processes public to your coworkers, and being required to change them based on public and private oversight?

The final section of the survey assessed the receptiveness of academic department and non-academic department staff to external input to their personal work processes. This part of the survey was a series of questions that asked about the level of comfort with oversight. Each question added a level of oversight. The questions are seen in Figure 5.

Trustworthiness of the Research Design

Credibility

According to Lincoln and Guba (1985), credibility in qualitative research refers to "confidence in the 'truth' of the finding" (Amankwaa, 2016, p. 121). It is a concept "analogous to internal validity in quantitative research" (Connelly, 2016, p. 435),

answering the question *'is the research design properly constructed?'* According to Connelly (2016), "[t]he question a reader might ask is, "Was the study conducted using standard procedures typically used in the indicated qualitative approach?" (p. 435). The two elements of the current study that require this scrutiny for credibility are the case study design, and the survey used to define the case.

Case studies have increased in popularity and practice in recent years. According to Google's *Ngram Viewer* cited by Yin, 2014 (p. xx), citations to "case study research" in published books has steadily increased since 1980. The emergence of "comprehensive reference works" (Yin, 2014, p. xix) dedicated to case study research demonstrates the increased prevalence of this type of methodology. Case studies are used to investigate "a contemporary phenomenon (the "case") in its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident" (Yin, 2014, p. 2). They are often used to explore organizational phenomena, and they are often combined with surveys in this context. The use of a case study design is appropriate for the current study due to the following reasons: the current study explores an organizational phenomenon (the existence of conflict between academic faculty and bureaucracy) in a unique way that is not fully understood with respect to the proper engagement of non-academic staff working on bureaucratic workflows in academic departments in a public university. According to Yin, (2014), the case study methodology is specifically suited to answering "how" and "why" questions for this type of inquiry. As such, this design is recognized by scholars for both its rigor and the trustworthiness of its findings.

As an element of the case study design in this study, the survey must be designed to address its own credibility. Two questions that need to be addressed regarding the credibility of a survey instrument itself are, 1) does the survey ask leading questions, and 2) is the right population being surveyed? The first question addresses reflexivity, and according to Yin you can rely on multiple sources of evidence in order to mitigate this type of influence (Yin, 2014, p. 111). The second question is addressed by the actual population surveyed in this study. The propositions for this study involve the proper engagement of non-academic staff working in academic departments, and the effect of that proper engagement on the level of conflict experienced between faculty and bureaucratic staff. This study includes academic faculty and non-academic staff. It is also limited to the faculty and staff who work directly with bureaucratic processes; i.e. faculty administrators and the staff that contribute to the workflow for three specific processes at the University of West Georgia.

Another issue for survey trustworthiness is the credibility of the respondents. Do respondents have the correct knowledge and experience to answer the survey questions truthfully, and if they do, are they giving truthful answers? To address the credibility of respondents in this study, a sufficiently large sample was taken. The sample size was large enough to measure significance at $p < 0.010$ to $p < 0.005$. In this way, the sample size accounts for this type of error. Furthermore, the survey was anonymous. While this is not a guarantee for truthful answers, the purpose was to encourage truthful answers from respondents. As an additional measure of credibility, responses were pooled into separate departments and reviewed. This aided in identifying potential issues with credibility due to truthfulness of the responses by department.

Confirmability

In qualitative research, confirmability refers to the neutrality or the lack of bias on the part of the researcher (Amankwaa, 2016). Bias is often mitigated by the use of corroborating data (Yin, 2014), and in this study, confirmability is based on data found in the literature that matches responses the study survey. It is also based on corroborating data observed by the researcher. For this reason, a researcher's statement is included in the current study.

Dependability

The measure of dependability for this study was based on the time frame of the project, data from the literature defining the context, and the development of similar surveys. Dependability is refers to the ability to reproduce or repeat the findings of a study (Amankawaa, 2016). Proof of the dependability of this research can be found primarily in the literature, where the phenomenon of conflict caused by bureaucratic procedures is documented. The timeframe associated with the evidence in the literature was compared to the timeframe of the current study in order to demonstrate that the current study falls within the same period. In addition, responses from similar surveys were compared to responses from the current study.

IRB approval for this project was received on September 15, 2017 and the survey was distributed from Qualtrics on September 19 and 20, 2017. The survey was open from September 19, 2017 to September 29, 2017 and the timeframe for the study was 11 days. Regarding the timeframe and the context for the current study, data from the literature suggests that the context has been well established for several decades. The rise of bureaucracy and a consequent presence of conflict is noted in the research of Baldridge

(1971). Pannu (1973) notes the perception of ". . . university governance and organization as a political process, dominated by conflict rather than consensus" (pp. iv-v). The increase in non-academic support staff in the 20th century is noted specifically by Liebman (1986) as a trend since the mid-1920s. This study was conducted in a shorter timeframe. The survey took place over a two week period and the researcher's observations are from a period of time between 2008 and 2017. These timeframes are much shorter than the overall context for this study. There are no noted changes in the context of the corporate management structure of the University of West Georgia defined as faculty administrators, the non-academic staff who initiate processes for those faculty administrators, and the non-academic staff who are part of the workflow for those processes. Nor are there any changes in the reports of perceived conflict with this management structure in the literature.

Transferability

Transferability means that "findings of one study can be applied to other situations." (Shenton, 2004, p. 69; Merriam, 1998) The key component of transferability is whether or not the results or findings can be generalized. For case studies this means that the context must be valid, and that means that "[r]esearchers support the study's transferability with a rich, detailed description of the context, location, and people studied, and by being transparent about analysis and trustworthiness" (Connelly, 2016, p. 436). For this study, not only are the findings generalizable to the immediate case, the context can be identified in other institutions as corroborated by the evidence in the literature. The literature demonstrates that the corporate management structure of faculty administrators, the non-academic staff who initiate processes for those faculty

administrators, and the non-academic staff who are part of the workflow for those processes is a common organizational structure. In this sense the findings could be transferable by replication with a much larger sample size. For this study, the use of a survey is to focus the case. Not all organizations are structured the same way, nor are they comprised of the same individuals. They may include similar cases though. These cases may be distributed in a variety of offices depending on the individual experiences and observations of staff.

Researcher's Statement

In November of 2008 I accepted an entry level administrative position with the music department at the University of West Georgia. The position entailed both budget and personnel process management among other duties. At the time of my initial training the faculty administrator for that department reported that academic budgets and management processes were complex and often difficult to manage. The academic faculty in the department reported the same perception, as well as feelings for frustration and conflict associated with the management of university business. As entry level academic department administrative staff I also trained with non-academic department staff from the bureaucratic units of the university including Budget Services, Human Resources and Purchasing Services. These non-academic department staff expressed the perception of frustration and conflict as well. The perceptions that were reported revolved around a related theme of knowledge management; academic faculty reported that bureaucratic procedures were not communicated directly to them, and that they were difficult to navigate while bureaucratic staff reported that academic faculty did not educate themselves regarding bureaucratic procedures. My administrative position in an

academic department of a public university offered an excellent perspective on the complexities of academic management.

From 2008 to 2017 I have continued to work closely with university procedures as a liaison between collegial and bureaucratic departments, moving from the music department in 2010, to the dean's office of the College of Arts & Humanities. In addition to the continued observations of frustration and conflict stemming from deficiencies in knowledge sharing, I also observed actual occurrences as well as potentials for serious errors resulting from the same deficiencies in knowledge sharing. The correction or the aversion of these serious errors almost always resulted in increased expression of conflict between the faculty and the bureaucracy. As a researcher I have noted that events documented in the literature on faculty satisfaction with university governance corroborate the observations as an academic administrator, i.e. that knowledge sharing is deficient and that it leads to dissatisfaction and conflict with regard to university governance.

From 2002 to 2006 I held a position as an onsite job trainer and employment specialist for adults with cognitive disabilities. During that time I had the opportunity to assist a client on a home-based inbound call center jobsite. On that jobsite I observed the use of electronic knowledge bases and a corresponding branching script by non-expert, entry level employees. The organizational structure was decentralized as all employees worked from their own homes. Employees were required to manage complex technical issues involved in the registration, setup and troubleshooting of a wide variety of electronic devices. The employees were required to do this without expertise and under

minimal supervision. The concepts studied in this dissertation are a result of these observations. These observations are presented as data from the field.

Internal Validity and Reliability of the Survey Results

As an additional measure of trustworthiness, Cronbach's Alpha was calculated for the survey responses with $\alpha = 0.73$ for all responses. The two relevant subsets that identified the case were also calculated at $\alpha = 0.70$ for subset 5, and $\alpha = 0.86$ for subset 6. While this is not required for exploratory case studies (Yin, 2014, p. 47), it was reviewed as an additional measure of trustworthiness. According to Yin, the logic of third-factor threats to internal validity are "inapplicable to descriptive or exploratory studies (p. 47)." While this study explores the potential for a causal relationship by identifying the case, it does not directly assert causality.

Summary

This chapter presents an overview of the procedures used to collect and analyze data on knowledge sharing along workflows and its perceived effect on faculty attitudes toward corporate style governance at UWG. The study follows a case study design as outlined by Yin (2014). Study questions are reviewed and propositions are presented. Units of analysis are reviewed as well as the logic linking the data to the propositions through a workflow diagram.

This case study utilizes a survey as part of the data collection technique. The procedure for the sample selection in the survey is reviewed. Two other sources of data are also reviewed: data from the field and data from the literature. The survey instrument is presented and reviewed, and a researcher's statement is included to address the quality of data from the field. To address the overall quality of the research,

credibility, confirmability, dependability and transferability are reviewed with respect to the three sources of data.

In this case study it is proposed that where knowledge sharing between the bureaucratic units and the academic department staff is lacking, there is a corresponding increase in negative perceptions of faculty attitudes toward university governance. It is also posited that the study conducted at UWG can be replicated at other institutions for the sake of comparison.

Chapter IV

FINDINGS

Overview

Survey Results

Respondents

On 9/19/2017 and 9/20/2017 the survey was sent to 263 employees at the University of West Georgia (UWG). From the sample, 111 were Business and Finance staff and 152 came from Academic Affairs. Of those from Academic Affairs, 80 were staff and 72 were administrative faculty (department chairs, deans and vice presidents). The survey was open from 9/19/2017 until 9/29/2017, and 75 of the people who received the survey invitation responded with a completed survey for a 29% response rate. Twenty-eight additional surveys were partially completed but did not contain enough data to include in the analysis. Most of the incomplete survey responses included only the login information. Four of the incomplete surveys did not identify where the respondents were within the workflow, but did include a few answers.

Based on self-identification through the first survey question, the respondents were divided into the following categories: Administrative Faculty, Academic Department Staff, Dean's Office Staff, Provost's Office Staff, and Business Office Staff. Additional questions were asked to further categorize the Business Office Staff into Business Office Generalists and Business Office Specialists. This filter was applied to

detect any differences in correlation at higher levels of the workflow. Of these final respondents, 21 were from Business and Finance, and 54 were from Academic Affairs. Of the respondents from Academic Affairs, 29 were staff and 25 were administrative faculty. The staff in Academic Affairs were further broken down into the following categories: staff in the Provost's Office = 4, staff in a Dean's Office = 9, and staff in the Academic Departments = 16. Table 1 shows the number of respondents in each category.

Table 1. *Survey Respondents by Category*

Categories	Number of Respondents	% of Total Responses	Response Rate by Category
Business Office Staff	21 *(out of 111)*	28%	19%
Academic Department Staff	16 *(out of 58)*	21%	28%
Dean's Office Staff	9 *(out of 17)*	12%	53%
Provost's Office Staff	4 *(out of 5)*	5%	80%
Administrative Faculty	25 *(out of 72)*	33%	35%

Case studies do not generalize to a whole population, so sample size and response rate with respect to a confidence interval are not a consideration for this analysis. Sample size is, however, a consideration with respect to the stringent benchmarks for establishing correlation in a small sample. For sample sizes less than 10, the critical values for r required to establish significance at $P < 0.1$ are between $r = 0.951$ and $r = 0.398$. For sample sizes greater than 60 the value of r required to establish significance is $r = 0.165$ and lower. The number of respondents ($n = 75$) was enough to measure significance at $P < 0.1$ with weak correlations (between $r = 0.1$ and $r = 0.25$). In addition, the number of respondents in most of the categories were sufficient to measure significance with an average correlation (between $r = 0.25$ and $r = 0.75$). These areas included Business Office Staff, $n = 21$, Department Staff, $n = 16$, Provost Staff, $n = 9$, and Administrative

Faculty, n = 25, with significant correlation found in the Administrative Faculty subset and the Business Office Staff subset responses.

Survey Responses

Survey respondents were asked a series of questions about three identified workflows at UWG: 1) the budget amendment process, 2) the process for hiring a new staff line, and 3) the process for submitting non-routine purchase requests for items that require additional review and explanation. For each workflow they were first asked to rate the level of knowledge of Business and Finance processes and procedures at the academic department level. The rating was based on a five point Likert Scale. The choices were scored from 1 to 5 as follows:

1 = Complete Knowledge

2 = A reasonable amount of knowledge

3 = Some knowledge

4 = Below average knowledge

5 = Absolutely no knowledge

Respondents were then asked to indicate the reason for their rating, and they were given three predetermined responses followed by an open-ended response. The predetermined responses explaining the reasons for their ratings were:

a) Academic departments have questions about the budget amendment process
b) Academic departments have to correct mistakes on budget amendments
c) There is an increased level of assistance with budget amendments from Business and Finance staff
d) Other (followed by an open text response option)

Finally, respondents were asked to rate the level of conflict that they perceived as associated with each process. The rating was based on a five point Likert Scale. The choices were scored from 1 to 5 with the following scoring:

1 = No conflict

2 = Some conflict

3 = Moderate conflict

4 = Above average conflict

5 = Extreme conflict

In responses to the first set of questions regarding the level of knowledge of Business and Finance processes and procedures at the academic department level, the average rating for the level of knowledge was between 2 (A reasonable amount of knowledge) and 3 (Some knowledge). For all three workflows, the average was closer to 3 (Some knowledge), while the most common rating was 2 (A reasonable amount of knowledge). The averages and their standard deviations are listed below (see Appendix C):

Overall Average Scores for Knowledge Sharing

1) The budget amendment process = 2.57 (SD = 0.82)

2) The process for hiring a new staff line = 2.72 (SD = 0.92)

3) The process for submitting non-routine purchase requests = 2.51 (SD = 1.17)

There were a few extreme ratings with 4 (Below average knowledge) being registered on 36 responses, and 5 (Absolutely no knowledge) being registered on 4 responses. Overall the ratings were not extreme, falling in the midrange of the scale; however, deficiencies

in knowledge sharing were reported with a few extreme responses that make up 4% to 7% of the responses for each workflow.

Table 2. *Knowledge Sharing by Category*

Groups	Process	Average	SD
Business Office Staff	Budget Amendment	3.00	0.77
	Hiring New Line	3.00	0.71
	Non-routine Purchases	2.38	1.56
Administrative Faculty	Budget Amendment	2.60	0.71
	Hiring New Line	2.64	1.11
	Non-routine Purchases	2.64	1.19
Academic Department Staff	Budget Amendment	2.31	0.87
	Hiring New Line	2.88	0.81
	Non-routine Purchases	2.56	0.73
Dean's Office Staff	Budget Amendment	2.11	0.93
	Hiring New Line	2.33	0.87
	Non-routine Purchases	2.44	1.01
Provost's Office Staff	Budget Amendment	2.25	0.50
	Hiring New Line	2.00	0.82
	Non-routine Purchases	2.25	0.50

There was a noticeable variation in the scores between the five categories of respondents. The scores for each category are broken down in Table 2 and can be reviewed in Appendix C. Business Office Staff gave the highest scores for deficiencies in knowledge sharing. They were followed by Administrative Faculty, Academic Department Staff, Dean's Office Staff and Provost's Office Staff.

In the responses to the follow up questions regarding the conflict perceived as associated with each process, the average rating for the level of perceived conflict was between 1 (No conflict) and 2 (Some conflict). For all three workflows, the average was closer to 2 (Some conflict), while the most common rating was 1 (No conflict). The averages and their standard deviations are listed below:

Overall Average Scores for Perceived Conflict

1) The budget amendment process = 1.01 (SD = 0.95)

2) The process for hiring a new staff line = 1.07 (SD = 0.93)

3) The process for submitting non-routine purchase requests = 1.05 (SD = 1.02)

There were a few extreme ratings with 4 (Above average conflict) being registered on 9 responses, and 5 (Extreme conflict) being registered on 3 responses. Overall the ratings are not extreme, falling in the lower range of the scale. Presence of conflict is reported, and while the level of conflict is not extreme, a few extreme responses were registered and they make up 1% to 2% of the responses for each workflow.

There was a noticeable variation in the scores between the five categories of respondents. The scores for each category are broken down in Table 3. Administrative faculty gave the highest scores for presence of conflict. They were followed by business office staff, dean's office staff academic department staff, and provost's office staff.

Table 3. *Perceived Conflict by Category*

Groups	Process	Average	SD
Administrative Faculty	Budget Amendment	1.88	1.17
	Hiring New Line	2.16	1.03
	Non-routine Purchases	1.96	1.17
Business Office Staff	Budget Amendment	1.71	1.01
	Hiring New Line	1.86	1.01
	Non-routine Purchases	1.48	1.17
Dean's Office Staff	Budget Amendment	1.44	0.73
	Hiring New Line	1.44	0.73
	Non-routine Purchases	1.78	0.67
Academic Department Staff	Budget Amendment	1.38	0.62
	Hiring New Line	1.44	0.63
	Non-routine Purchases	1.69	0.79
Provost's Office Staff	Budget Amendment	1.25	0.50
	Hiring New Line	1.25	0.50
	Non-routine Purchases	1.25	0.50

Correlation

In several key areas, a correlation was found between two variables, 1) perceived knowledge sharing and 2) perceived conflict between faculty and business procedures. When comparing the scores for the whole sample a positive correlation was found to exist for the purchasing process only, and it was a moderate correlation with $r = 0.34$ and $p < 0.005$. The Budget Amendment process only yielded $r = 0.16$ and $p > 0.10$. A similar result was found for the hiring process with $r = 0.15$ and $p > 0.10$. Correlations were more pronounced within isolated groups. While the there was no correlation between knowledge sharing and conflict related to the budget amendment process for the whole sample, business office staff alone demonstrated a significant correlation ($r = 0.38$ and $p < 0.10$.) We reject the null hypothesis for at least one of the identified processes, the process for making non-routine purchases. Furthermore, we reject the alternative hypothesis of an inverse or negative relationship between deficiencies in knowledge sharing in this process, and the perception of conflict, based on the positive value of r.

Within the data from the survey, there were six identified relevant subsets in which the correlation between low levels of knowledge sharing and high levels of conflict was strong, and significant. These can be found in Appendix C and they include the following data:

- Relevant Subset 1: Business and Finance Staff correlate Knowledge Sharing and Conflict in the Budget Amendment Process with $r = 0.38$ and $p < 0.05$.
- Relevant Subset 2: Business and Finance Staff strongly correlate Knowledge Sharing and Conflict in the Purchasing Process with $r = 0.58$ and $p < 0.005$.

- Relevant Subset 3: Business and Finance Staff correlate Knowledge Sharing and Conflict in all three processes with $r = 0.44$ and $p < 0.025$.
- Relevant Subset 4: Academic Staff and Faculty correlate Knowledge Sharing and Conflict in the Hiring Process with $r = 0.21$ and $p < 0.10$.
- Relevant Subset 5: 6 respondents who included negative qualitative comments, and registered presence of conflict, strongly correlated Knowledge Sharing and Conflict in the Hiring Process with $r = 0.79$ and $p < 0.05$.
- Relevant Subset 6: 6 respondents who included negative qualitative comments, and registered presence of conflict, strongly correlated Knowledge Sharing and Conflict in the Purchasing Process with $r = 0.77$ and $p < 0.05$.

In all six relevant subsets we reject the null and the alternative hypothesis. Further more, relevant subsets 5 and 6 demonstrate the existence of the case as defined, i.e. *faculty and staff in a corporatized university who notice conflict along workflows*. In these two subsets, the case is identified with strong correlation and with a significance level of $p < 0.05$.

Open Ended Responses

In reviewing the open ended responses related to level of knowledge sharing, there were several noticeable trends based on the percentage of the sample that registered certain predetermined responses. When respondents were asked to give reasons for their rating of knowledge sharing related to the budget amendment process, the hiring of new staff process, and the non-routine purchase process, there were four predetermined responses for each process:

a) Academic departments have questions about the [process]

b) Academic departments have to correct mistakes [in the process]

c) There is an increased level of assistance . . . from Business and Finance staff

d) Other

The predetermined responses involve questions, mistakes, assistance, and other. Furthermore, practically all respondents identified at least one deficiency in knowledge sharing in each process. The trends for the responses to each process are reviewed here.

When rating the level of knowledge of the budget amendment process at the academic department level, 96% of respondents identified at least one deficiency in knowledge sharing. Questions from the departments were cited by 51% of respondents, while 45% of respondents cited mistakes, 29% cited increased assistance from Business and Finance staff, and 4% identified some other deficiency. The other deficiencies indicated that knowledge sharing is person-specific rather than standard. One respondent from the administrative faculty noted that the reason for a rating of 3 (Some knowledge) was that "[k]nowledge at the academic department level depends on the person currently in the decision-making position." Another administrative faculty respondent's reasoning for a rating of 2 (A reasonable amount of knowledge) was that the "[l]evel of understanding varies dramatically based in large part on how long the department chair has been in place. Most of our chairs have served for a number of years, thus they are more familiar with processes than newer chairs would be." Both of these responses indicate that the level of knowledge is contingent upon years of experience and knowledge of the processes accumulated over time. One respondent from the academic department staff noted that "[t]he only people who understand the budget amendment

process are the department chair and the budget manager. The rest of the department has no knowledge of the process or procedures." This indicates a disconnect between administration and the rest of the department.

When rating the level of knowledge at the academic department level for the process for hiring new staff, 93% of respondents identified at least one deficiency in knowledge sharing. Sixty-eight percent (68%) of respondents cited questions from the departments, 33% cited mistakes, 27% cited increased assistance from Business and Finance staff, and 5% identified some other deficiency. The other deficiencies indicated that a disconnect is experienced due to the numerous levels of administration. One faculty administrator rated the level of knowledge as 3 (Some knowledge) and remarked that "The process is INTRICATE and painful." Another faculty administrator who rated the level of knowledge at the department level as reasonable, noted that "[t]here are too many people involved administratively. Then when they communicate with you because they have a question or issue, they assume you know who they are and what area they represent." An academic department staff member responded who rated the level of departmental knowledge in this area as 3 (Below average) and commented that "There are a very limited number of people who understand the process. Assistance is sought from both Human Resources and the Dean's office; however, usually it is sent back for corrections anyway. This adds to the time necessary to hire somebody." What is indicated in these responses is a level of frustration with a process that is intricate and alienating. Here, faculty and staff at the academic department level assert not only that there is a gap the communication of knowledge associated with hiring processes, but that the gap causes frustration and leads to inefficiencies.

When rating the level of knowledge at the academic department level regarding the process for making non-routine purchases, 96% of respondents identified at least one deficiency in knowledge sharing. Fifty-three percent (53%) of respondents cited questions from the departments, 16% cited mistakes, 33% cited increased assistance from Business and Finance staff, and 5% identified some other deficiency. The other deficiencies indicated that while efforts are continually underway to improve processes, the division between the academic units and the bureaucratic units is still the cause of much conflict and frustration. Regarding the process for completing non-routine purchases, one faculty administrator commented that "[w]e all do the USG training to help understand what to do in these situations," while another faculty administrator noted "I'd say we know about it but the process is nearly impenetrable." Another response from the faculty administrators was that "Policies continually change without any advanced warning or input from academic departments. It's a problem." To sum this up, one staff respondent noted that "[t]he only people who understand the process are the department chair and the budget manager. All people within that chain have been trained in how to do it. However, the rest of the department has no knowledge of the process or procedures. In other words, the people who are requesting the purchases do not understand the procedures. This adds to the frustrations of all involved."

At the end of the survey, each respondent was asked to share any thoughts that they might have. Several responses indicated a gap in knowledge sharing between the collegial unit of Academic Affairs, and the bureaucratic unit of Business and Finance. Based on the responses there are two conflicting notions. First, faculty administrators

report that the business unit does not provide adequate notification regarding procedures. This is evident in the following response from a faculty administrator:

> "Budget and Finance consistently change the protocol without notifying anyone. New policies are developed (even overnight in some instances), and our feet are held to the fire for not following them. Further, one office will claim the proper procedure is X, and another office (just down the hall from the other office or even within the same office) will claim the procedure is Y. This is unacceptable, but it has been happening for years."

At the same time, the business unit reports that faculty administrators do not take advantage of numerous resources that are intended to keep them informed about the processes. A point of further frustration and conflict is the fact that the processes are not arbitrary regulations as suggested in the previous response from a faculty administrator. This is evident in the following responses from staff from Business and Finance:

> "CBE offers extensive training for employees (faculty and staff)–The question is: How do you motivate a person to take the appropriate training?"
>
> "Being an agency that receives state appropriations, we have proscribed process that [must] be adhered to."

The conflicting notions are that a) Business and Finance does not provide notification to faculty administrators when processes change, and b) faculty administrators do not take advantage or pay attention to notifications when processes change.

A review of these open-ended responses reveals a clear indication of conflict between collegiality and bureaucracy. The noticeable impasse between the two notions

expressed in the statements above is our evidence. It is also stated unambiguously in the response "My interactions with Academic faculty are rare, but I do interact heavily with their departmental assistants, budget managers, etc. These interactions do leave me with a perception of slight conflict between Academic Affairs and Business and Finance." This supports the findings in the data in two ways: first, this statement confirms the presence of perceived conflict, and second, this statement identifies the conflict as "slight." This may be important when considering the higher rate of extreme scores for deficiencies in knowledge sharing versus the higher rate of mid-range scores for presence of conflict.

Level of Comfort with Process Sharing

In a final series of questions respondents were asked to rate their comfort level with external involvement in their personal work processes. Each question in the series added increasing levels of external influence:

- Making work processes public amongst coworkers;
- Making work processes public amongst coworkers and open to private suggestion;
- Making work processes public amongst coworkers and open to public suggestion;
- Making work processes public amongst coworkers and subject to their private oversight;
- Making work processes public amongst coworkers and subject to their public oversight;

The average responses to each question increased as the indication of external influence increased. See Table 4 to review the average responses. In general, respondents were

less comfortable with increased external involvement in their work processes as indicated by the increase in the average responses. These findings indicate a general trend, and demonstrate an area that could be further researched for correlation and significance.

Table 4. *Average Responses to Comfort Level*

Making work processes public amongst coworkers	Making work processes public amongst coworkers and open to private suggestion	Making work processes public amongst coworkers and open to public suggestion	Making work processes public amongst coworkers and subject to their private oversight	Making work processes public amongst coworkers and subject to their public oversight
1.10	1.18	1.42	2.14	2.20

Literature Review Results

Presence of Conflict and Focus on Bureaucracy

The evidence found in the literature shows that within the bureaucratic functioning of the university there is a presence of conflict perceived as associated with those bureaucratic functions. A portion of the total literature review for this study involves the analysis and critique of corporate style bureaucratic management in the modern university. In this subset of the total literature identifies the presence of conflict in university governance is clearly identified, and in most cases its causes are traced. This main subset can be divided into two smaller subsets; literature that analyzes corporate style bureaucratic management in the modern university, and literature that critiques corporate style bureaucratic management in the modern university.

In the first subset of the literature that analyzes corporate style bureaucratic management, the potential for conflict is identified by reports of potential inequalities between academic faculty and non-academic staff. This literature discusses the increase

in non-academic staff in the public university, concerns from an academic faculty perspective regarding the increased reliance on this category of employee in the university system, and concerns for the proper engagement of non-academic staff in the public university system. It also establishes a timeframe for the current study noting the prominence of university bureaucracy as an issue in the 1960s and 70s. The following examples show how the content of this subset confirm the potential for general conflict between faculty and non-academic staff.

Liebmann (1986) discusses the sharp increase in non-academic or staff employees. He notes that

> [a] huge body of workers has Joined the traditional participants in American colleges and universities. This group of non-academic or staff employees, virtually non-existent until the late 19th century, now outnumbers the faculty and could be considered chiefly responsible for the successful daily operation of every institution of higher learning. Lacking previous research regarding these employes; this paper reviews educational history and the statistics at one doctorate-granting institution to document the magnitude and causes of this dramatic growth. (p. 1)

The same topic is also seen in Pannu (1973) who discusses "large contingents of other personnel . . ." that have been added to the staff of the modern university "to provide essential services for everyone on campus" (p. 1). But Pannu discusses these additional staff as they stand in opposition to the traditional teaching faculty. His study is a "case study of institutional change in university governance with special reference to faculty participation and faculty conflict in the organizational development and policy-

formulation . . .” (p. iv), and it emphasizes a power struggle defined by bureaucratic versus academic control of university policy as well as threats to academic freedom. Conflict is mentioned throughout the study and “internal structures of authority or coordination . . .” (p. 3) are identified early on as a point of interest. The workflow involves both internal structures of authority and coordination, and the staff (ground level generalists, and high level specialists) who manage the workflow. These are early examples documenting the presence of conflict and a connection with bureaucratic processes, and they are referenced throughout the current literature in Kezar (2004), Brownlee (2014), Craig (2014) and Sahlin (2016) discuss this challenge of bureaucratic structures mixed with collegial structures.

With regard to the concern for the proper engagement of non-academic staff, references can be found in the literature as early as the mid-1960s. Pannu (1973) notes that the Canadian Duff-Berdahl commission on university government “was specifically charged with examining

> . . . the charges that one so often hears today, that universities are becoming so large, so complex, and so dependent upon public funds that scholars no longer form or even influence their own policy, that a new and rapidly growing class of administrators is assuming control, and that a gulf of misunderstanding and misapprehension is widening between the academic staff and the administrative personnel, with grave damage to the functioning of both. (p. 4)

The charge states that the functioning of both the teaching staff and the administrative personnel is affected by misunderstandings resulting from a growing struggle between bureaucracy and the academic faculty. A review of the literature also shows that the role

of non-academic staff is often overlooked. Proper functioning (engagement) is at stake and it is recognized throughout the literature.

Similar concerns are reflected in the second subset of the literature that critical of university bureaucracy (as opposed to analytical). Concerns over threats to academic freedom and the access of faculty to the governance process are related to the increase of bureaucratic structures and of non-academic staff. In this subset of the literature, bureaucratization is described as colonization and treated as a hostile takeover of the universities. Examples are noted in the literature review and they include Craig (2014), Parker (2012, 2010, 2010, 1995), and Ryan (2012, 2014). Furthermore, conflict is obvious in many of the harsh critiques of bureaucracy in the university. Ryan (2012) describes a process of resistance to the corporate structure, and Craig (2014) describes the structure a perversion.

Corroboration between Literature Review and Study Propositions

In the previous section, the literature on university governance was divided into two subsets; literature that analyzes and literature that critiques. These two subsets taken together contain content that corroborates the proposition that faculty dissatisfaction is increased when collegial initiatives are halted after the bureaucratic vetting process. Based on the findings in the literature review the proposition might be stated more generally: Faculty dissatisfaction is increased when the bureaucratic vetting process *interferes* with collegial initiatives. Several examples demonstrated this corroboration.

Example 1. Pannu (1973) cites conflict when he states that the study is a "case study of institutional change in university governance with special reference to faculty participation and faculty conflict in the organizational development and policy-

formulation . . .” (p. iv). The case study associates conflict with the increase of bureaucratic processes in university governance. In addition, numerous faculty complaints are reviewed in this study showing that dissatisfaction is related to bureaucratic involvement.

Example 2. Altbach (1980) cites that challenges posed by increased bureaucracy endanger the professorial role. “Challenges of expansion, pressures for reform and accountability, the student activism of the sixties, and other factors have endangered the traditional professorial role” (p. 1). This source notes that the professoriate oppose increased bureaucracy as it impinges upon autonomy (p. 11), and mentions “dissenting academics” (pp. 8-9).

Example 3. Craig (2014) cites another study stating that “[i]ncreasingly intrusive audit regimes in public universities are manifestations of such surveillance, despite resistance in universities to quantification, measurement, control or even observation of the ‘messy experience of academic work’ (Malcolm and Zukas, 2009, p. 495)” (p. 17). This directly corroborates an increase in bureaucratic involvement related to resistance stemming from dissatisfaction.

Corroboration between Literature Review and Survey Results

The presence of this type of conflict and its association with bureaucratic procedures as stated in the study proposition is corroborated in the literature review and in the survey results. Several responses in the UWG survey matched responses found in the literature. The responses from the UWG survey that bore the most striking resemblance to responses from the literature were:

1. Regarding deficiencies in knowledge sharing in the hiring process: "There are too many people involved administratively. Then when they communicate with you because they have a question or issue, they assume you know who they are and what area they represent"
2. A general response: "Budget and Finance consistently change the protocol without notifying anyone. New policies are developed (even overnight in some instances), and our feet are held to the fire for not following them. Further, one office will claim the proper procedure is X, and another office (just down the hall from the other office or even within the same office) will claim the procedure is Y. This is unacceptable, but it has been happening for years"

In the first UWG response listed above there is a reference to increased levels of bureaucracy as well as a perceived lack of organizational communication. Below is a comparison to data from the literature.

> "There are too many people involved administratively. Then when they communicate with you because they have a question or issue, they assume you know who they are and what area they represent."

The same respondent also noted that "Policies continually change without any advanced warning or input from academic departments. It's a problem." This was coupled with a high rating of conflict and low rating of knowledge sharing.

These responses from the UWG survey match the observation from Pannu (1973)

> . . . that universities are becoming so large, so complex, and so dependent upon public funds that scholars no longer form or even influence their own policy, that

> a new and rapidly growing class of administrators is assuming control, and that a gulf of misunderstanding and misapprehension is widening between the academic staff and the administrative personnel, with grave damage to the functioning of both. (p. 4)

In the second UWG response listed above the respondent noted similar sentiments regarding the involvement of faculty in governance, and expressed dissatisfaction with the bureaucratic functions.

> "Budget and Finance consistently change the protocol without notifying anyone. New policies are developed (even overnight in some instances), and our feet are held to the fire for not following them. Further, one office will claim the proper procedure is X, and another office (just down the hall from the other office or even within the same office) will claim the procedure is Y. This is unacceptable, but it has been happening for years."

This is corroborated in the literature review in a statement by Weisbuch, 2015:

> Faculty Bob finds Administration Bob a dumb bull in a shop of fine china. Administration Bob is fond of describing Faculty Bob as standing in that shop in the dark and refusing to change the light bulb. Professor Bob likes to remind Ex-Prez Bob that tradition and slow change have served universities extremely well, as one of the few institutions with roots in the Middle Ages, while today's new tech will become tomorrow's hula hoop. Ex-Prez Bob then retorts that Professor Bob simultaneously believes that the academic ship is sinking but doesn't want anyone to rock the boat . . . (Weisbuch, 2015)

This sentiment of unnecessary inefficiency is found in the broader complaints in the research and literature that condemns bureaucracy in the university. This literature includes Craig (2014), Parker (2012, 2010, 2010, 1995), and Ryan (2012, 2014) and many others.

Field Observations

Historical Observations

Between the dates of 2003 and 2008 the researcher observed the use of a knowledge base and branching script by West at Home employees (now Alorica at Home). The use of the knowledge base and branching script was observed when the researcher trained a client to receive inbound customer service calls on a home computer and phone system. The client worked from their own home and had limited prior knowledge of the products and services offered by West at Home or their client companies. The job training and job performance observed by the researcher involved setting up cell phone services, upselling and providing tech support for a major cell phone provider. Inquiries and service requests through the inbound call router were managed through a knowledge base and a branching script. This tool effectively solved problems of non-expert employees in decentralized organization and reduced conflict between customer service and customers.

According to the process used by West at Home customers called the main helpdesk number and were routed to employees who worked in their own homes. West at Home employees would log in to a dashboard to take calls and to access a script for each call. As the call commenced the West at Home employee would begin with the script. The employee would then click on links that were associated with the responses

given by the in calling customer. When customers needed to activate their phones, the non-expert employees had access to diagnostic scripts that would walk the customer through the steps, identifying the phone model, describing the physical appearance of the phone, and describing detailed instructions. The researcher observed numerous instances of successful calls where customers asked for assistance with complex processes. It was also observed that the employee did not have any previous knowledge of the processes and that the employee relied solely on the assistance of the branching script and knowledge base.

Current Observation 1 *Scholarship Payment*

The first current field observation is a process that was researched and developed for a UWG academic department to make scholarship payments from a Sales and Services department budget. An academic department decided to use funds from conference registration revenue to match a scholarship amount awarded to their study abroad program participants. On 1/16/2017 the department asked the dean's office to review and outline the procedures for covering the expense. On 1/17/2013 and 1/25/2013 the inquiry was forwarded to the UWG Controllers Office. On 4/2/2013 resolution on the matter began when the Dean's Office contacted the UWG Controller's Office and was forwarded to the Bursar's Office. The Bursar's Office was contacted on 4/2/2013 and responses between 4/5/2013 and a 4/9/2013 meeting developed an understanding of the department's inquiry with the Bursar's Office. A response was formulated and basic procedures were communicated to the Dean's Office and the department by 4/10/2013. The response confirmed that the procedure to use the source of funds was correct and that it was a standard practice. It also confirmed that there were no issues with the

department's planned use of funds, and the initiative was not terminated. The timing of the response was concerning to the department as they had already recruited students to participate in the study abroad programs, and those students anticipated the financial aid associated with a scholarship match. The deadlines for enrollment in the department's study abroad programs was communicated as 1/31/2013 through 2/15/2013. Students had to commit to program participation based on program deadlines associated with the travel itinerary of the study abroad program (lodging and airfare arrangements had to be secured prior to the study abroad trip). The resolution of the process and confirmation of the appropriateness of the use of funds was not final until 4/10/2013, almost three months too late for any contingency.

This relates to the historical observation in the following way. Knowledge bases are intended to immediately share expert information with non-experts in a decentralized organization. Branching scripts are intended to direct non-experts to the correct information in unique situations. In the first field observation, the decentralized, non-expert department staff were faced with a unique procedural question–*can we use a specific source of funding to pay scholarships to students?* Without a branching script or a guide for a unique inquiry the department and dean's office staff were not sure how to direct the inquiry. Furthermore, the timing of a negative response to the inquiry could have negatively affected enrolment in the program, causing the program to be reduced in scope or cancelled. The department was aware of these potential negative consequences, and expressed concern on a regular basis throughout the period of time between the inquiry and the response.

Current Observation 2 *Overtime Payment*

The second current field observation is a process for paying overtime payments to ground level academic department staff for work performed outside of regular working hours. In August of 2015, the academic departments at the University of West Georgia were asked to complete a data entry project in Banner within a timeframe of several weeks. The project was scheduled for completion on 10/1/2015. Departments determined that the data entry should be completed by their support staff, the ground level staff in the academic departments. It was also determined that the data entry was outside of the normal routine of duties for the staff, and that in order to complete the project, staff would need to work overtime hours. Throughout the first two weeks of August the departments were preparing to pay overtime for additional work by staff and were seeking advice from the dean's office regarding procedures for paying overtime. On 8/13/15 the inquiry was forwarded to UWG Human Resources. The UWG Human Resources department responded immediately with a series of phone calls and informal meetings. The dean's office gathered information regarding the entering of additional time and the departments moved forward with the completion of the project by the end of August. The departments were operating under a reasonable assumption that employees would receive time-and-a-half pay for overtime. In September of 2015 the staff in the academic department completed the additional work and clocked in for additional hours over and above their regular 8 to 5 schedule. When the department staff reviewed their pay for the pay period, it was discovered that they did not receive time-and-a-half. It was determined that they were not eligible for time-and-a-half due to their logging of non-work paid time (sick time or vacation time) during the pay period. This information was

not communicated or available at the academic department level at the time of the communication and agreement with the ground-level staff to take on additional work.

This relates to the historical observation in the following way. Customer service representatives use knowledge bases and branching scripts in order to mitigate negative reactions from customers who are, or may become upset. Department staff were upset that they were not informed of a policy which led to their assumption that they would receive a higher amount of compensation than they were eligible for. Immediate communication to the department and to the staff of the information in the overtime policy would have mitigated the negative reaction. The department and the staff would have been aware of all pertinent information, and their agreement and decision would have been better informed.

Corroboration between Field Observations and Literature Review

When considering the field observations and the data found in the literature review the data from both sources confirms that the context for the current case study are confirmed to exist in general. That data also helps to further define the case and to confirm its existence at UWG. The context is "*faculty administrators, the non-academic staff who initiate processes for those faculty administrators, and the non-academic staff who are part of the workflow for those processes*." These are reported in the literature since the mid-1960s as seen in Pannu (1973). Part of the case, "*faculty and staff in a corporatized university who notice conflict along workflows associated with knowledge sharing*," is confirmed in the literature with reports of conflict resulting from bureaucratic processes. What remains to be confirmed is the noticing of this conflict by individuals who manage the university's bureaucratic workflows, and the association of increased

levels of this conflict with low levels of knowledge sharing between bureaucratic specialist and ground level academic department staff.

Portions of the case and all of the context have been observed in the field. It is corroborated by the fact that 1) conflict exists, 2) it is associated with bureaucratic processes, and 3) in both of the current field observations the bureaucracy either interfered with or potentially interfered with and halted a collegial decision. The third point connects the lit review with the observed field data. Those potentials for conflict identified in the literature review and associated with bureaucracy were present in the field observations. Bureaucracy did halt one initiative, and in the second initiative the department was concerned that the bureaucracy would halt procedures. This also corroborates the study proposition (both versions). Conflict and dissatisfaction was noticed by faculty and staff within the workflow for the observed processes, and that conflict was associated with both bureaucratic interference with and halting of a collegial decision. The purpose of the survey in this study was to complete the identification of the case as UWG by documenting an association between low levels of knowledge sharing and high levels of conflict. This portion of the case is identified by the responses from the UWG survey that identify bureaucracy as a source of conflict and rate knowledge sharing at a low level.

Summary

A review of the data collected in the survey reveals that there is a moderate, positive correlation between the perceived presence of conflict and the perceived level of knowledge sharing for at least one of three processes tested. The correlation between these variables for the process for making non-routine purchases was significant. A

positive correlation was also found within a subset of the sample for the budget amendment process. Both faculty administrators and Business and Finance staff demonstrated the strongest correlations. These are both groups of respondents that may have more information regarding the functioning of the processes in question. The assessment of a correlation may depend on the unique perspective of the respondents. Several respondents admitted to not having enough knowledge about a process to make an accurate assessment. In addition, many respondents reported that they do not interact directly with faculty administrators.

A correlation was also demonstrated in the open-ended responses. The perception of conflict is identified clearly in multiple open-ended responses. Overall, the presence of conflict scored low compared to the lack of knowledge sharing. In one open-ended response, presence of conflict was described as "slight." This may be important when considering the lack of correlation between conflict and knowledge sharing in the two processes that did not demonstrate a correlation. Lower scores for conflict might skew the data, and there may be a correlation between the perception of any conflict whatsoever and deficiencies in knowledge sharing. This is useful to the current study, as conflict is still present, and reducing deficiencies in knowledge sharing might also further reduce conflict.

A review of the data collected in the survey also reveals that non-academic staff are less comfortable with increased levels of oversight of their work procedures. The management of knowledge sharing between points in a workflow may involve varying degrees of oversight. In this effort, reviewing the workflow might reveal deficiencies and inefficiencies that require employees to take corrective action. If it is useful to increase

knowledge sharing and it becomes a managed effort, then managing employee attitudes will be an important part of that effort. Open-ended responses indicated that equitable mechanisms would need to be in place in order to manage the effort of increasing knowledge sharing.

Data from the literature and from field observations corroborates several components of the study propositions. First, the existence of the context is confirmed in data from the literature that reviews the organizational structure of faculty administrators, the non-academic staff who initiate processes for those faculty administrators, and the non-academic staff who are part of the workflow for those processes within a public university. Second, the presence of conflict related to bureaucratic procedures is confirmed in the literature that is critical of increased bureaucracy in public university governance. These two points corroborate the potential for the existence of part of the case as defined–faculty and staff in a corporatized university who notice conflict along workflows. This data does not go so far as to confirm the remaining aspect of the case as defined–the association of that conflict with low levels of knowledge sharing. This part of the case is confirmed by the data from the field (which further defines the context) and the survey results. The quantitative and qualitative data from the survey confirms the existence of the case–the presence of conflict within bureaucratic workflows related to deficiencies in knowledge sharing–at UWG. The quantitative data confirms a correlation between low levels of knowledge sharing and the perception of conflict within the workflow while the qualitative data matches the data found in the literature and in the field data.

Chapter V

DISCUSSION

Overview

The consequences of the corporatization and bureaucratization of public universities have been an ever present concern for the academic faculty throughout the 20th century. Bureaucratic procedures that are standard for large corporations have overtaken the university system and stand in sharp contrast to the traditional collegial governance of the institution. Resistance has become a ubiquitous conflict as academics seek to "limit the process of colonization implicit in the managerial project" (Anderson, 2008, p. 267). In all corners of the globe, the academic faculty of the university have made their disapproval well known. It is a crisis in which "[n]ew public management policies . . . have changed universities from social institutions to quasi corporations in which control over academics and their work has increased" (Ryan, 2014, p. 76), and rigor is sacrificed through commodification for the sake of enrollment and retention numbers.

The issues of corporatization that plague faculty governance have been debated since the onset of the corporatization of universities in the late 19th century. Most of the literature is an outcry against the burden of the encroachment of new regulations. There is "no dearth of complaints about what is happening in higher education . . ." (Ryan, 2012, p. 3) as academics feel the pressure to comply with the mechanisms of

"'bureaucratization' and 'monetarisation' [used] to steer institutions . . ." (Ryan, 2012, p. 4). Many scholars admit that there is no viable solution and that the ills of bureaucratized academia are here to stay. Ryan describes the reaction as zombification, "a form of passive resistance and survival . . ." (Ryan, 2012, p. 3) in which withdrawal and acquiescence are commonly viewed as the only options in response to corporatization. While the situation of academic governance has been thoroughly reviewed from an academic point of view, an aspect that has received little attention is the role of the non-instructional staff in this conflict.

It has been noted that non-instructional staff are a growing demographic in the modern public university system. Since the onset of New Public Management in the 1980s, and the reforms of government accountability in the 1990s, bureaucratic mechanisms of oversight have also increased; in many cases at an alarming rate. As these bureaucratic mechanisms have increased, so too have the number of non-instructional staff who are used as a means to support them. These mechanisms are often the objects of contempt for faculty and the occasion for conflict. The non-instructional newcomers are regularly thrust into the middle of this conflict, and they enjoy a unique position of being caught in between the dysfunction of two equally functioning governing bodies–the collegium and the bureaucracy. While this might seem to be an unfortunate plight, sometimes a unique vantage point can reveal a perspective on a situation that offers an equally unique solution. In the workflows of public university administration, mid-level managers in academic departments have the opportunity to witness the dysfunction between bureaucracy and collegium from both sides. The researcher has taken advantage of this unique perspective on the interactions between a collegial

governing body and a bureaucratic governing body at the University of West Georgia (UWG), revealing some untapped potential in the underrated and admittedly overlooked role of ground level academic department staff in the public university. The researcher posits the following observations:

1. Bureaucratic units (the business office) and collegial units (the faculty) do not take the initiative to understand or become familiar with how their counterparts operate.
2. The ground level staff members in the academic departments are in the position to help ease contentious interactions between the faculty and the business office, but they are not equipped to do so.
3. One cause of conflict that might be eliminated by a well-prepared ground level staff is the difference between the timelines of a collegial decision and a bureaucratic decision.

1–Bureaucratic units and collegial units do not take the initiative to understand or become familiar with how their counterparts operate.

Evidence of this can be seen both in previous research and in the current study. One of the barriers to efficient university governance that was cited in a 2009 study by the Association of Governing Boards involves the lack of initiative on the part of faculty administrators to understand corporate governance. To a question about barriers to effective governance, one university president responded:

> Faculty do not have an institution-wide perspective. Nor are they accountable for the outcomes of decisions related to governance and finances. They lack the

> ability and experience necessary to run a multi-million dollar business. (Schwartz et. al., 2009, p. 18)

This seems to bear out in the current study based on the responses from faculty administrators and business office staff alike.

In the current study, there are a few responses from faculty administrators that on the surface appear to be damning of business office procedures. In light of the responses chronicling the efforts of the business office these faculty responses seem to be hyperbole. The researcher posits that the true scenario is more of a middle ground where neither group has made sufficient effort to bridge the gap. When asked to clarify their rating of knowledge of processes one faculty administrator commented that "Policies continually change without any advanced warning or input from academic departments. It's a problem." Another response from a faculty administrator cited similar frustrations with changes perceived to be sudden.

> "Budget and Finance consistently change the protocol without notifying anyone. New policies are developed (even overnight in some instances), and our feet are held to the fire for not following them. Further, one office will claim the proper procedure is X, and another office (just down the hall from the other office or even within the same office) will claim the procedure is Y. This is unacceptable, but it has been happening for years."

These are pointed assessments, however, the responses from business and finance staff suggest that this is not the full story. The accusation that processes are changed without communication or consultation with faculty may be overstated.

Business and finance staff provided the following responses that challenge the notion that procedures change overnight without any communication or faculty input. One respondent answered: "Being an agency that receives state appropriations, we have proscribed process[es] that [must] be adhered to." Note that these are "proscribed" processes, meaning that, by virtue of being proscribed, they *are* known and that they don't necessarily "change without warning." More importantly, these "proscribed processes" are not subject to faculty consensus. That expectation on the part of faculty is a misunderstanding. Proscribed processes are governmental mandates that are non-negotiable.

Another business and finance staff member responded that "CBE offers extensive training for employees (faculty and staff)–The question is: How do you motivate a person to take the appropriate training?" Both of these responses indicate that there is a misunderstanding on the part of faculty about the nature of bureaucratic processes, and that faculty do not educate themselves sufficiently when it comes to the processes. One staff respondent at the department level summed up the situation very clearly, "I don't see conflict, but I see a lot of frustration. [The faculty] don't understand why things take so long. They don't understand the laws and regulations that have [led] to the current procedures. They don't understand why things are so complicated."

The faculty perspective (hyperbole or not) has to originate from some experience. Something that seems to be missing in the business and finance perspective is that academic faculty are all hired as experts in fields like Philosophy or Chemistry. They are not hired to be bureaucrats, nor should they be expected to be bureaucrats. A philosophy department staffed solely by bureaucrats would implode within one semester. You need

philosophers to teach philosophy, and such a department would best be directed by a philosopher. As such, an efficient and responsible management system has to understand this fact. It is not realistic to expect faculty administrators to be immediately in tune with bureaucratic procedures when the bulk of their extensive education and experience does not even consider business or management procedure. Responses that indicate "we offer the training" or "the rules are proscribed" amount to a dismissal of the fact that faculty governance requires an additional layer of communication in order to be efficient. Like "the human condition" one might call this "the university condition." At the same time, academic faculty do not get a complete pass on their responsibility to know the procedures.

2–The ground level staff members in the academic departments are in the position to help ease contentious interactions between the faculty and the business office, but they are not equipped to do so.

The basic demographics of the ground level academic department staff highlight this observation. Most departmental staff are either departmental assistants or program coordinators at a pay grade between $11 and $14 per hour. These are entry level positions that are several pay grades below the staff in the upper administrative offices. In most cases, these positions do not require a master's degree, nor do they require the expertise of a specialist. Later it will be suggested that additional research is needed to review the pay grades and job requirements of academic department staff versus the pay and requirements of business office specialists. Suffice it to say that the departmental staff members do not have the qualifications or the responsibility based on their pay grade to make judgment calls at the level of a specialist or an expert in the area of budget,

human resources, or purchasing. While these types of issues are well beyond the pay grade of the department staff, they are still the only staff serving the bureaucracy that also have direct access to the faculty administrators. Often, they are the only point of contact that faculty have with the bureaucracy. These are the staff who are in the best position to serve both the faculty and the bureaucracy, but they lack the skills required to do so effectively due to the way these positions are established and budgeted.

3–One cause of conflict that might be eliminated by a well prepared ground level staff is the difference between the timelines of a collegial decision and a bureaucratic decision.

In collegial governing systems, decisions are made by deliberation and consensus. While there is no uniform length of time for deliberations, once a decision is made the act is immediately ready for execution. This is the way that academic departments make decisions about their programs. Once these decisions are made by the faculty administrators they are almost always handed over to their immediate staff. These are the ground-level academic department staff, and they are entrusted with the details of academic initiatives that next must be vetted through the bureaucratic system. In a bureaucracy, decisions are not made by deliberation and consensus, but are made on the basis of legitimate authority from experts. Decisions are made as soon as an item is vetted by the expert. Experts review the policy related to the item, whether it be internal policy or a policy mandated by a stakeholder (usually the state or the federal government in the case of the public university). Ideally the timeline is quick but it may depend on the workload and the accessibility of the expert. Ten business days is often considered standard for a turnaround time, but with proper information in place decisions can be

made very quickly. This is a sort of bicameral system in which the two constituent decision makers operate on vastly different timeframes and principles. To demonstrate this process, we can follow the footsteps of a hypothetical initiative.

Figure 6. *Communication Gap in Hypothetical Academic Initiative*

The outline below is a hypothetical scenario based on real events observed by the researcher.

1. An academic department discusses a plan to offer scholarships to students in order to encourage participation in a summer program.
    a. They start discussions in September, and they meet each month to deliberate.
    b. The department chair is new, but at their previous institution they ran a similar program for years.
    c. The department's staff member is new, but is sure that he or she has attended all the mandatory training.
    d. Basic information on the scholarship plan is discussed with the department staff member who now realizes that "scholarships" was not covered in the mandatory training.
    e. The department staff member begins asking around for assistance, but has had no response–indeed it is not quite clear who to ask. Scholarship paperwork is found in the existing files and documents are prepared for submission based on the knowledge gained from the available information.
2. In November, the faculty in the department decides to move forward with the plan and they ask the department staff to start the process for setting up scholarships.
    a. The department staff assembles and submits the paperwork.
3. Faculty discusses the program with students and recruits students based on the availability of scholarships awarded in the paperwork submitted by the department assistant.
4. A week later the department staff is contacted by a new person who they have never spoken with before and are notified that there may be issues with the paperwork.
    a. When the department staff is contacted by a new person with questions about the paperwork, it is not clear that there is an error.
    b. Discussion with the new contact and the department staff ensues for one week and it is determined that there is an error.
    c. The department chair is notified.
    d. The faculty are notified.

e. It is now December and there is not enough time to reach all of the students recruited for the program.

5. Students drop from the program and the program is discontinued. Unfortunately, state funds were already committed to the reservation of space and printing costs for the program. These funds will not be recovered.

    a. When students return in January they are informed that the scholarships are no longer available. Deadlines for other programs are approaching and students drop from the department's program.
    b. With the drop in enrollment the department cannot sustain the program and it has to be discontinued. They already paid a nonrefundable deposit on space for the program. They also have paid for the cost of printing a brochure.

In Figure 6 there is an opportunity that is missed in the first step of the outline. When academic departmental staff members are notified of initiatives, it is usually at a point that is close to the collegial decision-making timeline. Later this is discussed as a potential for future research. If the information communicated in the fourth step of the outline was communicated in the first step then the collegial decision would have benefitted from the information.

The role of ground level academic department staff is not usually considered in the academic decision-making process, nor is it studied or highlighted by researchers. This happens for a number of reasons. First, the ground level academic department staff are not perceived as part of the decision-making process. They are not faculty and they are not specialists. As such, their role in the decision-making process may not be obscured and a very useful potential might be overlooked–call center technology and scripts. The researcher has noticed a connection between the functioning of outsourced call center staff in private industry and the functioning of ground level academic department staff in the public university. Both types of employees are non-specialists or non-experts. Both types of employees have to work with processes that are ultimately

managed by a limited number of experts. Both types of employees work in isolation in a decentralized environment. The difference is that outsourced call center staff have a resource at their disposal that bridges the gap between expert and non-expert, specialist and non-specialist. This resource is the knowledge base and branching script. All of this prompts the question *why hasn't something been done for public university staff*? The answer may be that the need has not been recognized since a correlation has not been recognized. The goal of this study is to establish the correlation and to define the need.

The results of this study determined that a positive correlation exists between perceived conflict between faculty and business office staff, and deficiencies in knowledge sharing between the business office staff and the ground level academic department staff. The correlation is weak, but there may be reasons based on qualitative responses in the survey. First, the qualitative responses indicated a misunderstanding of the wording in one of the survey questions. This was not detected in all responses, but there were several instances where respondents questioned the definition of "conflict." One respondent demonstrated an outright misunderstanding of the question when they stated "I don't see conflict, but I see a lot of frustration." In this case, conflict and frustration should have been communicated in the survey question as the same concept. Other respondents understood the connection and the misunderstanding was not universal. However; given the fact that more than one respondent had questions about the term "conflict," the ratings may have been higher for presence of conflict if the question included details or an explanation that included "frustration with the process."

Another reason for a weak correlation between perceived conflict and deficiencies in knowledge sharing could be that respondents are reporting a rosy scenario. There may

be an unwillingness to be negative since this is an assessment of the respondents' work environment. The rosy scenario is a term often associated with economic or political outlooks but in the case some of the responses indicated a positive spin. The use of the term "slight conflict" is a prime example of a positive spin.

Research Question Outcomes

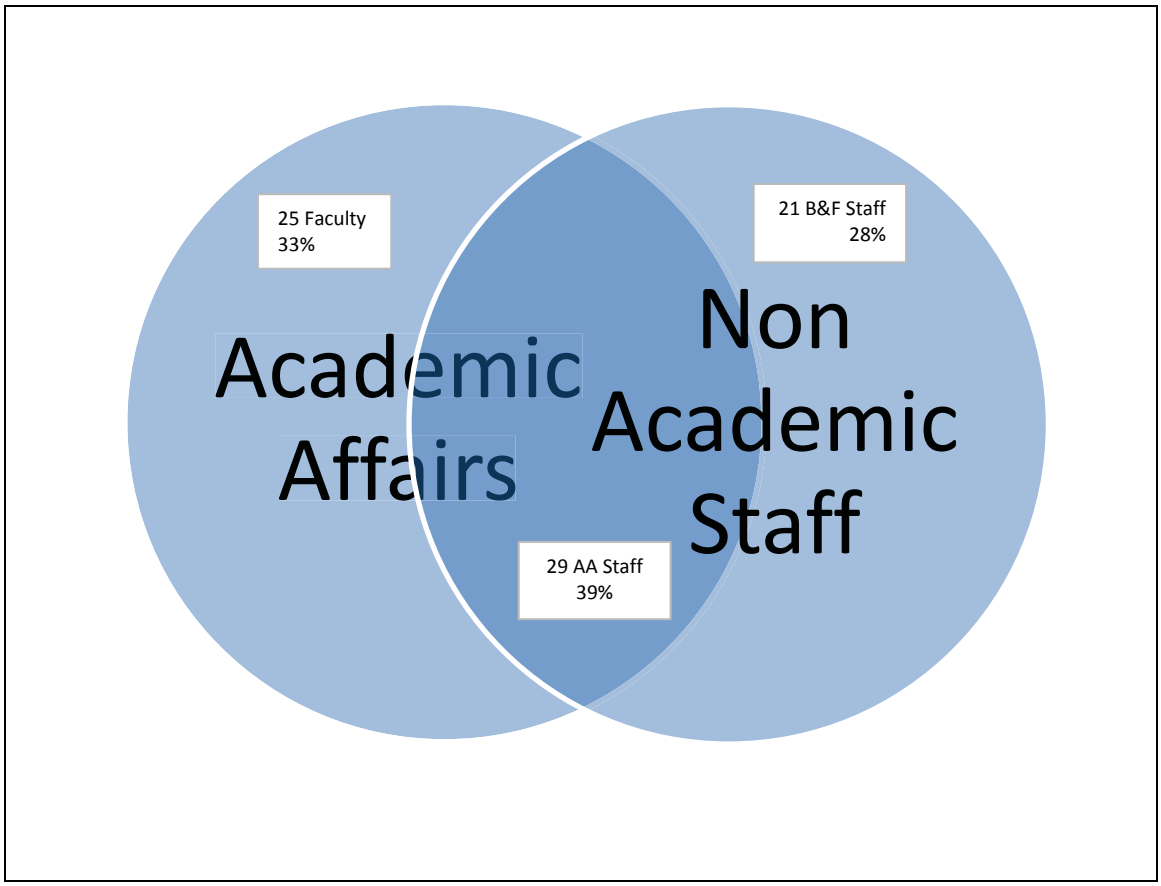
In this study, the respondents included university faculty and staff (n = 75) who participate at various points of three specific workflows–the budget amendment workflow, the hiring workflow, and the purchasing workflow. These three workflows are initiated at the academic department level and end in the business office of the university. From one point of view there were three distinct groups; academic faculty administrators (n = 25 or 33%), business office staff (n = 21 or 28%) and academic department staff including the provost's office and the dean's offices (n = 29 or 39%). From another point of view the respondents fell into two groups; academic affairs including academic faculty and non-academic staff (n = 54 or 72%) and business office staff (n = 21 or 28%). The middle ground in Figure 7 is the non-academic staff in academic affairs. The researcher posits that the middle ground group is largely ignored in the existing literature and research on university governance. More than a third of the sample in this study includes an underrepresented group.

The research questions in this study were:

4. Is there a perceived need throughout the workflow in an academic institution for the facilitation of access to bureaucratic expertise?

5. How would the organizational structure of the University of West Georgia support the implementation and management of a decision tree and knowledge base for ground level academic department staff?

Figure 7. *Venn Diagram of Sample Demographics.*



The data collected from the survey in this study is summarized next.

1–Is there a perceived need throughout the workflow in an academic institution for the facilitation of access to bureaucratic expertise?

The average measure for the presence of conflict for all respondents on a scale of 1 to 5 was between 1.00 and 2.00. In the faculty group that comprised 33% of respondents (n = 25) the average response was between 2.00 and 2.56. See Table 5 for the average responses.

Table 5. *Average Scores for Presence of Conflict*

	1) In the Budget amendment process	2) In the hiring process	3) In the purchasing process
Faculty Administrators	1.88	2.16	1.96
Non-Academic Staff	1.52	1.6	1.58

While the ratings were not high overall, on average they were above 1.00 indicating the presence of conflict. If the average were 1.00 then there would be no conflict perceived. Though the scores are low across all categories for all three questions, the scores still register a level of conflict that is present. This is supported by the qualitative data collected which confirms a perception of conflict between faculty and bureaucracy.

The average measure for deficiencies in knowledge sharing were a little higher than the average measures of the presence of conflict.

According to the data in this study, there is a perceived need throughout the workflow at UWG for the facilitation of increased access to bureaucratic expertise at the department level, but this perception does not necessarily exist at the ground level. The perception is more evident in the faculty administrators and business and finance staff groups. The other groups may not be large enough to establish significance for a weak to moderate correlation. Dean's office and provost's office staff are the groups who are most likely to observe conflicts between faculty and the bureaucratic staff along the workflows, but their numbers (n = 13, 9 + 4) are close to half that of the faculty respondents (13:25) and three fifths of the business office staff (13:21). The correlation shifts throughout the workflow and throughout the groups. Faculty perceive more of a

need as it relates to conflict, and staff perceive more of a need as it relates to knowledge sharing based on the average responses.

Table 6. *Average Scores for Deficiencies in Knowledge Sharing*

	1) In the Budget amendment process	2) In the hiring process	3) In the purchasing process
Faculty Administrators	2.6	2.64	2.64
Non-Academic Staff	2.56	2.76	2.44

2–How would the organizational structure of the University of West Georgia support the implementation and management of a decision tree and knowledge base for ground level academic department staff?

The responses to the questions about oversight and involvement in work processes confirmed the hypothesis that staff members are less comfortable with increased involvement in their daily work processes. The average ratings for the level of discomfort increased as the levels of oversight and involvement increased. The choices from 1 to 5 were: 1) Extremely comfortable, 2) Somewhat comfortable, 3) Neither comfortable nor uncomfortable, 4) Somewhat uncomfortable, and 5) Extremely uncomfortable. Table 7 shows the increased levels of discomfort reported by staff as the level of oversight and outside involvement in their work processes increased. This can be seen in the trend for the average responses that increase from 1.1 with the highest level of comfort being registered by 66% of respondents to 2.2 with a lower level of comfort being registered by 60% of the respondents. These results and the following discussion are intended to demonstrate a need and for a knowledge base as well as underlying reasons why.

Implications

Serious errors can occur when knowledge of policy and procedure are limited. In an academic institution this can lead to impediments to program development as demonstrated in Figure 6. As a result, there is increased conflict between the collegial and bureaucratic units within the university, and, as the literature demonstrates, this is often manifested as faculty dissatisfaction with corporate style governance. This is not an indictment of the business office or the faculty administration. After all, the business office is doing its due diligence in making sure that policy and procedure are followed; faculty are doing their due diligence in trying to develop their programs. This is an indictment of a system that is flawed in its design. Measures are in place as each academic department is staffed to meet the needs of the bureaucracy, but the solution is only half complete as the ground level staff are not fully equipped to assist in the effort. This is not due to any deficiency in effort on the part of business office staff or the faculty. This is due to the lack of a developed system.

The situation on the ground is a result of two fundamental organizational structure issues that are found in many public universities. These issues are not specific to the University of West Georgia or to the University System of Georgia. They are a fundamental aspect of a broader collection of public university systems. The first structure issue is the combination of a collegial governing unit and a bureaucratic governing unit in one organization. Their modes of operation as well as their timelines for action are vastly different. The second issue stems from the first and it is the decentralization of academic departments–academic departments are in a physical location that is separate from the business office, and the chain of command (supervisory

and approval functions) is separated from the bureaucracy. When the bureaucracy exercises its due diligence, this structure can become a barrier.

Table 7. *Average Scores for Level of Comfort with Oversight*

	How comfortable are you with making your work processes public to your coworkers?	How comfortable are you with making your work processes public to your coworkers, and open to private suggestion?	How comfortable are you with making your work processes public to your coworkers and open to public suggestion?	How comfortable are you with making your work processes public to your coworkers, and being required to change them based on private oversight?	How comfortable are you with making your work processes public to your coworkers, and being required to change them based on public and private oversight?
Average Response	1.1	1.18	1.42	2.14	2.2
Most Common Response	1	1	1	2	2
% of Most Common Response	66%	66%	48%	60%	60%

Recommendations

The researcher strongly recommends a system wide effort to develop a knowledge base and a branching script, similar to the systems used by customer service call center

helpdesks, that contains information on public university procedures. Knowledge bases and branching scripts are widely used and well developed within the customer service industry. They allow non-expert ground level staff to function as experts, and they allow the bureaucratic experts to efficiently manage content while maintaining a reasonable workload. The purpose of this development is to correct a flaw that may be fundamental to a larger group of public universities–a disconnect between collegial and bureaucratic governing entities. A system similar to one used by employees of Alorica at Home (formerly West at Home) would be ideal. This would be a cost effective way to allow the bureaucracy the opportunity for early intervention in the collegial decision making process. The cost effectiveness would stem from the fact that it would utilize resources already in place, both in its functioning and its development. Policy taskforce committees are already functioning within the universities, and the academic department staff members are already on the payroll. These resources can be used to build and maintain the knowledge base and branching script, and the ground level department staff as well as the administrative faculty can implement its use.

The researcher also recommends that a comparative study should be conducted in order to learn more about the need for knowledge sharing and to discover additional avenues for future implementation of potential systems. Every institution is unique and their structures may be more or less adapted to the needs of public university governance. Older institutions may have processes in place, whereas developing institutions may not. The need for a knowledge management system may be more prevalent in a growing institution than in the long established research institutions. As well, the need may not be part of the institutional experience in smaller state institutions. UWG is one of four

comprehensive universities in the University System of Georgia, but it was not always in this category. Its growth from a state university to a comprehensive university took place during a period of increased demands from government stakeholders. The perceived need for immediate knowledge sharing as a remedy for conflict between academics and bureaucrats may be universal, or it could be limited to growing institutions like UWG. Nonetheless, the benefits of immediate knowledge sharing would extend to all.

Knowledge Base and Script

To develop a knowledge base and branching script the technology component is one of the first considerations. Knowledge bases can be as elaborate as a purchased system developed and used in industry, or they can be as simple as a word document stored on a shared drive. Wikis are a common ICT used to organize knowledge. Another key step to developing and maintaining such a technology for ground level department staff in a public university is the establishment of a standing committee charged with its oversight and development. When asked questions about who should oversee or manage procedures within the workflows one survey respondent stated:

> "It would probably need to be some type of panel. It would need to be objective. There would need to be someone who could see the big picture. There would need to be someone to empathize with the people doing the jobs. There would need to be someone who knows all the laws and regulations leading to the current procedures. There would need to be someone who knows the faculty viewpoint."

The establishment of a committee addresses the first part of this response. Members of this committee can be appointed from a group of employees who occupy positions that can see the big picture. Dean's Office and Provost Office Staff would be

ideal. Several principles can be established as fundamental operational tenets. Empathy and objectivity are the most important. Empathy can be the first consideration in establishing knowledge base material. If an employee at the lowest pay grade needs access to knowledge, then it should not be omitted from the database. As far as the concern for a faculty viewpoint, this can be addressed by including faculty representatives and staff who serve faculty in the committee makeup. Objectivity can be achieved by soliciting the assistance of resident experts who are not part of the committee but who inform the committee regarding content. This would also cover the concerns regarding laws and regulations. It is standard procedure to use subject matter experts to develop and maintain the information in a knowledge base and branching script. The public university already has subject matter experts in the form of specialists in business and finance. In addition, it should be noted that the public university also has ground level department staff who are experts in the area of the needs of their departments.

Once established, the standing committee will need to have a process for developing and maintaining the knowledge base and branching script content that it is charged to create. It will also need a procedure for implementing the use of the knowledge base and branching script. The establishment of data for the knowledge base will be achieved through the framework outlined here. A relational database such as Access or Wikis can be used to enter a list of workflows. Additional workflows can be added as needed. Starting with one identified workflow, all employees who are part of the workflow are listed as a point in the workflow. This information is provided by the employees involved in the workflow. If it is discovered that an employee was omitted then the error is updated in the maintenance process.

Once the points in the workflow are established each employee in the workflow is asked to provide all the information on what they do in the process, i.e. the actions that they take. They provide this information from a list of predetermined responses:

- Verifying budget;
- Verifying completeness/accuracy;
- Verifying alignment with departmental priorities;
- Verifying alignment with mandates (governing board mandates and state mandates are the main categories here. Some relevant questions include:–Does the Board of Regents (BOR) control the process? Does some state department like the Department of Administrative Services control the process? What are their guidelines as they pertain to the process?);
- Briefing and reporting to the approval authority;
- Open-ended responses (The committee will not know all aspects of every workflow. An open-ended response is needed for further development of the predetermined responses).

For each entry in the database, if it is discovered that an action in the process was omitted then the error is updated in the maintenance process.

In addition to the action data, each employee in the workflow is asked to provide data regarding any mandates associated with their processes. In many cases this will be confined to business office specialists who are experts in the area of budget, human resources, and purchasing mandates, or it will fall to the Provost's Office staff who manage Board of Regents and accreditation mandates. These data points include but are not limited to the following:

- Board of Regents (BOR) Policy 7.3.2.2 and University System of Georgia (USG) Procedure 24.3.2

  An example of this type of data point is the USG procedure 24.3.2 for the use of Supplemental Course Material Fees that is based on BOR policy 7.3.2.2. This policy and procedure mandates how departments can spend specific funds, however, the management of this information is the duty of a budget director, controller, or assistant controller. Ground-level academic department staff do not have immediate access to the expertise of the budget director, controller or assistant controller, however, many decisions made by the academic administrators at the department level could benefit greatly from immediate access to this expertise.

- Southern Association of Colleges and Schools (SACS) Requirements for Accreditation

  The SAC Commission on Colleges establishes Comprehensive Standards for accreditation. Comprehensive standard 3.7.1 requires the credentialing of all academic faculty hired by a college or university. Guidelines for credentialing are not included in the comprehensive standard, but are listed on the SACSCOC website. These guidelines are given the same weight as the policy, and the information might be managed by a records coordinator for a college or university's provost. Ground-level academic department staff do not have immediate access to the expertise of the records coordinator, yet they do assist with the collection of hiring paperwork such as transcripts and vita that ultimately satisfy the SACSCOC accreditation mandate.

- State Accounting Office (SAO) Travel Policy

  Georgia's State Accounting Office (SAO) publishes annually its policy on travel reimbursements. This includes the amounts that they will allow state funded institutions to reimburse for travel expenses such as meals and mileage. It is the duty of a controller or an assistant controller to manage the information pertaining to travel reimbursements, but many reimbursement decisions are made by department chairs with the assistance of the ground-level academic department staff. Neither the department chair or the staff member have immediate access to the expertise of the assistant controller or the controller.

- Department of Administrative Services (DOAS) Purchasing Card Policy

  The Georgia Department of Administrative Services manages the state's purchasing card policy. It manages this policy in conjunction with the Official Coad of Georgia Annotated (O.C.G.A) and the State Accounting Office. The DOAS publishes the current Purchasing Card Manual that outlines allowable and prohibited purchases with a state purchasing card. This information is managed by a Card Program Administrator who serves as the primary liaison between the institution and the state agencies involved with purchasing card procedures. The purchasing cards are used at the academic department level, and when this occurs there may be questions about allowable purchases. Ground-level academic department staff do not have immediate access to the expertise of the Card Program Administrator, though they would benefit from immediate access when questions about allowable purchases arise.

Again, if an omission is discovered then it is updated in the maintenance process.

The final data point in the database will be a collection of associated terms to be used as a search engine. These terms will be updated routinely as needed. Staff can submit suggestions based on their search experience, and common terms can be added as needed. The maintenance of the database will occur through feedback from the staff within the workflow with follow up from regular committee meetings. If a person's role changes in the workflow then that is updated in the database. If a regulation changes then that is updated in the database. Forms used within the workflow can also be used to collect and monitor data and a simple submission process will be established to notify the committee of any needed updates to the database. When a change occurs, then it is reported to the committee, and the committee is charged with making speedy updates to the database and branching script.

The committee will need to have standard operating procedures and it will have to have some level of authority. The committee will establish its operating procedures by publishing rules for submission and for notice and comment. Its authority can be established by virtue of the existence of the database and branching script as an available resource. The database and branching script can be deemed as the preferred repository for university procedure. As more and more departments make use of the resource it becomes the standard. To raise awareness of the resource, as the resident experts build and review the data, they are also made aware that the data is the preferred source for university procedure. The University of West Georgia already has a policy taskforce in place to handle university policy, and it functions in a similar way. The same effort can be replicated for university procedures.

Comparative Study

The researcher recommends a comparative study between two similar public universities to gain more knowledge about the correlation between collegial-bureaucratic conflict and knowledge sharing along workflows. There are several reasons for this recommendation. First, a stronger correlation needs to be established based on a larger sample size. The sample size was only 75 and was confined to one institution and in smaller relevant subsets, stronger opinions and more informed observations were noted. The phenomenon of faculty dissatisfaction with corporate governance in the university is too strong to ignore. Its presence in the literature is overwhelming, yet the subsets in this study do not thoroughly reflect this widespread phenomenon. Non-academic staff that occupy positions in the workflow that offer the optimal perspective on this phenomenon are the smallest portion of the sample. Tendencies can be observed that support the presence of conflict correlated with deficiencies in knowledge sharing, however, the sample size is too small in one institution.

A comparative study would also offer an opportunity to assess a stronger correlation based on a clearer understanding of the idea of conflict. In the current study, qualitative responses based on conflict were strong yet the correlation to deficiencies in knowledge sharing was weak. Respondents were not asked to directly relate conflict to knowledge sharing. Instead, respondents reported on knowledge sharing and then reported on the perception of conflict. One response indicated that a slight level of conflict was detectable. One response questioned the definition of conflict. One response demonstrated a false negative. The respondent reported no conflict but

followed up with the following qualitative response: "On the last page you asked about conflict with faculty. I don't see conflict, but I see a lot of frustration."

Another benefit a comparative study would be to learn more about how the correlation between faculty-bureaucracy conflict and workflow knowledge sharing looks across different institutions. Is the correlation a universal phenomenon or is it specific to certain types of institutions? Is it stronger in some types of institutions and weaker in others? Where is the greatest need for increased knowledge sharing in order to reduce faculty-bureaucracy conflict? One very important question that could be addressed in a comparative study is–what are the best practices?

Finally, comparative studies are needed to raise awareness. The study of this is not part of the mainstream of research on faculty governance. Larger studies can draw attention to the issue. A comparative study between several larger institutions in a university system would raise attention to the issue of conflict caused by workflow inefficiencies stemming from the lack of immediate knowledge at the academic department level. Best practices could be developed and the need for a knowledge base and branching script could be more thoroughly defined.

Future Research Needs

In addition to the comparative study, we need improvements to the current survey. There are two additions to the survey that could improve the data collected. First, there is a need to define conflict. Several respondents were unclear about the definition of conflict based on their open-ended responses. The questions about knowledge sharing included explanations in the wording of the question itself. Asking the question about conflict in a similar format and including the terms "frustration" may eliminate this

confusion and lead to more defined results. Second, the questions about knowledge sharing were followed by several predetermined responses and an open-ended response asking for the reason the respondent gave the particular rating they gave. This offered additional data to compare. The questions about conflict did not have predetermined responses. More data could have been collected on conflict if predetermined responses were an option. In studying the relationship between conflict and knowledge sharing, more data is needed to establish and define the relationship.

Further research is also needed regarding the role of ground level academic department staff in the bureaucratic workflows of public universities, and the effect of that role on conflict between faculty governing bodies and bureaucratic governing bodies. Three areas for future research include the role of knowledge sharing in faculty attitudes toward governance, the role of knowledge sharing in unsuccessful initiatives or serious errors, and the role of ground level academic department staff in the communication of bureaucratic expertise during the collegial decision-making process must be identified and understood. Part of the research on the role of the ground level academic department staff in communicating bureaucratic expertise must include realistic expectations based on job qualifications posted in official position descriptions. Therefore the placement of ground level department staff has to be identified and recognized. This data would be helpful in further defining the need for a knowledge base and branching script.

It is unclear whether or not faculty administrators consider the role of knowledge sharing with ground level staff to be a factor in their perception of corporate processes. Several of the responses from faculty administrators indicated that they did not get involved in the details of the workflow once a project was passed along to their staff.

Responses like "I know that my department's budget person has probably done a lot that I'm not aware of. I only hear of things really when there is a problem . . ." might indicate that the issue is not on the radar of faculty administrators. Research into the attitudes of the faculty administrator toward the workflow engaged by their staff might shed some light on the matter. Themes such as "what is the proper or appropriate engagement of your staff" could present very useful data as there may be a disconnect between what is perceived as appropriate engagement and what is actually appropriate engagement. If staff are not engaged in a particular area and it results in conflict between collegiality and bureaucracy then there might be an opportunity for development and improvement.

Finally, the role of knowledge sharing in unsuccessful initiatives needs to be researched. Every institution has their own stories of the effects of knowledge sharing deficiencies on unsuccessful initiatives. These are not proud moments, but they occur as suggested in the literature. Many of the auditing agencies that review and guide academic institutions will also have stories. These are potentially rich repositories of knowledge that would further the knowledge, leading to better practices of governance in higher education. There is a need for research that would connect actual instances of unsuccessful initiatives or serious errors with a lack of knowledge sharing and it could extend to associated agencies.

Conclusion

The public university is unique among public institutions. It is an institution built upon centuries of traditions, chief among them is the governance of the university by the faculty. As such the public university faces a unique challenge in the face of increasing bureaucratic oversight from the state as a stakeholder. Weber noted that this is the

consequence of publicly funded institutions and as scarcity of resources continues, our institutions of higher education look more and more to the state for funding needs. As the needs are filled, so are the needs for management of those resources. In the public university, this has given rise to a conflict between the bureaucracy and the collegium as they reconcile two very different styles of governance. Lost in the strife, and observable by only a few well-placed staff there is the role of the ground level departmental staff and an organizational divide. Herein lies an opportunity to address the deficiencies of an organizational dilemma.

In this study, a correlation was found between deficiencies of knowledge sharing and the presence of conflict between faculty and bureaucracy in the public university system. In many areas, the correlation was positive and significant. Faculty notice the issue, and this is no surprise. It is validated almost everywhere in the literature on academic governance. Some of the staff have also recognized the issue and can confirm at least some connection with deficiencies of knowledge sharing along the workflows. While more research is needed to confirm and to develop this correlation, a connection has been made. The qualitative responses confirm the connection too. The answers in this study tend to reflect the answers in other studies, but here we have the voice of non-academic, non-faculty staff. This is a perspective that is practically nonexistent in the current literature. As well, a potential solution in the knowledge bases and branching scripts used by private industry call centers has yet to be addressed.

Decentralized ground level staff members are practically the sole the points of contact between the collegial decision makers and the bureaucracy. Academic departmental decisions are made by the faculty and then communicated directly to their

frontline staff. According to the timeline for a collegial decision, usually these decisions are considered final after a long period of deliberation and consensus building; however, according to the timeline for vetting through the bureaucracy, the process has only just begun. In this scenario, the experts in the bureaucracy are often in the position of having to reverse or halt collegial decisions that have taken weeks or months to develop. Sometimes those decisions have already prompted actions that are later discovered to be errors. In order to keep the faculty decision process well informed, there is a need for the immediate communication of bureaucratic expertise. In the customer service industry, there is a mechanism for the immediate transfer of knowledge. It is the Knowledge Base and the Branching Script. The ground level, frontline academic department staff are in need of this type of resource. Furthermore, this is a topic that has not received any attention in the research or literature on corporate university governance or academic leadership. If the role of the academic department staff is fully recognized then through proper engagement and the wise use of available communication technologies the public university has the opportunity and the responsibility to reduce conflict, conserve resources and efficiently run the business of academia.

REFERENCES

2010. "Faculty-Board Engagement Proves Effective." Presidency 13, no. 2: 8. Academic Search Complete, EBSCOhost (accessed September 17, 2015).

AAUP. (n.d.). http://www.aaup.org/our-programs/shared-governance. (September 17, 2015)

Administration. (2017). Retrieved from https://www.westga.edu/administration/

Alorica@home. (2010). Become an Agent. Retrieved from http://apply.aloricaathome.com

Altbach, P. G. (1980). The Crisis of the Professoriate. *The Annals of the American Academy of Political and Social Science,* 1.

Amankwaa, L. (2016). CREATING PROTOCOLS FOR TRUSTWORTHINESS IN QUALITATIVE RESEARCH. *Journal Of Cultural Diversity, 23*(3), 121.

Anderson, G. (2008). Mapping Academic Resistance in the Managerial University. *Organization*, *15*(2), 251-270. doi:10.1177/1350508407086583

Baldridge, J. V., & Stanford Univ., C. E. (1971). *Models of University Governance: Bureaucratic, Collegial, and Political.*

Baldridge, J. (1971). *Power and conflict in the university.* New York: John Wiley.

Beasty, C. (2006). RE: TOOLING. *CRM Magazine*, *10*(4), 46.

Berg, M., & Seeber, B. K. (2016, July 8). Take your time. *Chronicle of Higher Education, 62*(40), 3.

Berlach, R. G. (2001). University corporatisation: The assault of rationalism on the academic spirit. *Eight International Literacy & Education Research Network Conference*.

Brandenburg, L. (2017). 22 Visual Models Used by Business Analysts. Retrieved from http://www.bridging-the-gap.com/22-visual-models-used-by-business-analysts/

Brint, Steven. (2013). Institutional Data Archive on American Higher Education, 1970-2011. ICPSR34874-v1. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2013-12-03. http://doi.org/10.3886/ICPSR34874.v1

Bok, Derek. (2013). "The Trouble with Shared Governance." Trusteeship Magazine. (September/October). http://agb.org/trusteeship/2013/9/trouble-shared-governance. (September 17, 2015)

Craig, Russell, Joel Amernic, and Dennis Tourish. (2014). "Perverse Audit Culture and Accountability of the Modern Public University." Financial Accountability & Management 30, no. 1: 1. Publisher Provided Full Text Searching File, EBSCOhost (accessed November 8, 2015).

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.). Los Angeles: SAGE.

Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Los Angeles: SAGE.

Cho, T., & Mun, H. (2013). *From Adam Smith To Michael Porter: Evolution Of Competitiveness Theory (Extended Edition)*. Singapore: World Scientific.

Colleges & Universities 2000. http://www.higher-ed2000.ucr.edu/about.html. Accessed on 11/24/2015 (Info on the ICPSR survey)

Connelly, L. M. (2016). Understanding Research. Trustworthiness in Qualitative Research. *MEDSURG Nursing, 25*(6), 435-436.

Cucui, I. i., Robescu, V. r., Stegaroiu, I. s., & Petrescu, M. (2010). Knowledge Management and Impact on Governance of Romanian Universities. *Proceedings Of The European Conference On Knowledge Management*, 315-322.

Delanty, Gerard. (2002). "The governance of universities: What is the role of the university in the knowledge society?" Canadian Journal of Sociology. 27(2), 185-198. Retrieved from http://search.proquest.com/docview/220544728?accountid=14800

Epstein, D., & Maltzman, R. (2014). *Project workflow management: a business process approach*. Plantation, Florida: J. Ross Publishing, [2014].

Faculty-Board Engagement Proves Effective. (2010). *Presidency 13, no. 2: 8*. Academic Search Complete, EBSCOhost.

Ginder, S. A., Kelly-Reid, J. E., Mann, F. B., National Center for Education Statistics, & RTI, I. (2015). *Enrollment and Employees in Postsecondary Institutions, Fall 2014; and Financial Statistics and Academic Libraries, Fiscal Year 2014. First Look* (Provisional Data). NCES 2016-005

Historical Enrollment. (2015). Retrieved from https://www.westga.edu/administration/president/iea/assets/docs/EnrollmentHistory-1957-to-present.pdf

History of the AAUP. (n.d.). Retrieved from https://www.aaup.org/about/history-aaup

Keller, G. (1983). Shaping an academic strategy. In G. Keller (Ed.), *Academic strategy: The management revolution in American higher education*. Baltimore: The Johns Hopkins University Press.

Kezar, Adrianna, Peter D. Eckel (2004). "Meeting Today's Governance Challenges." The Journal of Higher Education. 75 (4): 371-398.

Knapp, L. G., Kelly-Reid, J. E., Ginder, S. A., & National Center for Education, S. (2009). *Employees in postsecondary institutions, fall 2008, and salaries of full-time instructional staff, 2008-09. First look*. Washington, DC.: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Knight, B., & Floray, S. P. (2005). Museum Staff Emergency Procedures: A Sample Emergency "Flip Chart." *Conserve O Gram, 21/11*. 1-8. Retrieved from https://www.nps.gov/museum/publications/conserveogram/21-11.pdf

Knight, P., & Trowler, P. (2001). *Departmental leadership in higher education*. Buckingham, UK: Open University Press/SRHE.

Knowledge Management [Def. 1]. (n.d.). In *Oxford Living Dictionaries*, Retrieved April 19, 2017, from https://en.oxforddictionaries.com/definition/knowledge_management

L. Cooper, C. (2013). Peter Drucker and the wellbeing agenda. *Strategic Direction, 10*, 21. doi:10.1108/SD-10-2013-0081

Larsen, I. M., Maassen, P., & Stensaker, B. (2009). Four Basic Dilemmas in University Governance Reform. *Higher Education Management And Policy, 21*(3), 33-50.

Lau, W. K. J. (2010). *Empowerment of non-academic personnel in higher education: exploring associations with perceived organizational support for innovation and organizational trust* (Doctoral dissertation, University of Iowa). Retrieved from http://ir.uiowa.edu/etd/843

Leonard, T. C. (2015). Progressive Era Origins of the Regulatory State and the Economist as Expert. *History Of Political Economy, 47*, 49-76. doi:10.1215/00182702-3130439

Liebmann, J. D. (1986, June). *Non-academic employees in higher education: A historical overview*. Paper presented at the 1986 Annual Forum of the Association for Institutional Research, Orlando, FL.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, Calif.: Sage Publications, 1985.

Lipsky, M. (2010). Street-Level Bureaucracy: Dilemmas of the Individual in Public Services. 30th Anniversary Expanded Edition. Russell Sage Foundation: New York.

Lorenz, C. (2012). If You're So Smart, Why Are You under Surveillance? Universities, Neoliberalism, and New Public Management. *Critical Inquiry, 3*, 599. doi:10.1086/664553

Ly, L., Rinderle-Ma, S., Göser, K., & Dadam, P. (2012). On enabling integrated process compliance with semantic constraints in process management systems. *Information Systems Frontiers, 14*(2), 195. doi:10.1007/s10796-009-9185-9

Marginson, S. (2010, May 30). The Rise of the Global University: 5 New Tensions. *The Chronicle of Higher Education*. Retrieved from https://www.chronicle.com/article/The-Rise-of-the-Global/65694.

Marquis, H. (2007, November 13). Scripted Success. *Do-It-Yourself Guides, 3*(45). Retrieved from http://www.itsmsolutions.com/newsletters/DITYvol3iss45.htm.

Merriam, S. B. (1998). *Qualitative research and case study applications in education*, Jossey-Bass: San Francisco.

Monakova, G., & Leymann, F. (2012). Workflow ART: a framework for multidimensional workflow analysis. *Enterprise Information Systems, 7*(1), 133-166. doi:10.1080/17517575.2012.688220

Muller, J. Z. (2018, January 21). The Tyranny of Metrics. *The Chronicle of Higher Education*. Retrieved from https://www.chronicle.com/article/The-Tyranny-of-Metrics/242269?cid=wcontentgrid.

Nyhagen, Gigliola, and Lukas Baschung. (2013). "New organizational structures and the transformation of academic work." Higher Education 66, no. 4: 409-423. Professional Development Collection, EBSCOhost (accessed November 8, 2015).

Parker, L. D. (2012). From Privatised to Hybrid Corporatised Higher Education: A Global Financial Management Discourse. *Financial Accountability & Management, 28*(3), 247-268. doi:10.1111/j.1468-0408.2012.00544.x

Parker, L. (2011), 'University Corporatisation: Driving Redefinition', Critical Perspectives on Accounting, Vol. 22, No. 4, pp. 434–50.

Parker, L. D., & Guthrie, J. (2010). Business schools in an age of globalization. *Accounting, Auditing & Accountability Journal, 23*(1), 5-13. doi:10.1108/09513571011010583

Parker, M., & Jary, D. (1995). The McUniversity: Organization, Management and Academic Subjectivity. *Organization*, *2*(2), 319. doi:10.1177/135050849522013

Parsons, T. (1947). Introduction. In M. Weber, *The Theory of Social and Economic Organization* (pp. 1-86) Glencoe, IL: The Falcon's Wing Press.

Pitman, T. (2000). Perceptions of academics and students as customers: A survey of administrative staff in higher education. *Journal of Higher Education Policy & Management, 22*(2), 165-175. doi: 10.1080/13600800050196876

Prichard, C., & Willmott, H. (1997). Just How Managed is the McUniversity?. *Organization Studies (Walter De Gruyter Gmbh & Co. KG.)*, *18*(2), 287.

Remler, D. K., & Van Ryzin, G. (2015). *Research methods in practice: strategies for description and causation* (2nd ed.). Los Angeles: SAGE.

Russ, M. (2010). *Knowledge Management Strategies for Business Development*. Hershey, PA: IGI Global.

Ryan, S. (2012). Academic Zombies: A Failure of Resistance or a Means of Survival? *Australian Universities' Review 54*, (2), 3-11. ERIC, EBSCOhost (accessed November 8, 2015).

Ryan, S, & Guthrie, J. (2014). Undermining the Corporate Citizen: An Academic Story. *Journal Of Corporate Citizenship, 54*, 75-94. Business Source Complete, EBSCOhost (accessed November 8, 2015).

Sahlin, K., & Eriksson-Zetterquist, U. (2016). Collegiality in modern universities - the composition of governance ideals and practices. *Nordic Journal Of Studies In Educational Policy, 2*(2/3), 1. doi:10.3402/nstep.v2.33640

Sandrick, K. M. (1996). Adventures in outsourcing. *Health Facilities Management*, *9*(7), 22.

Schedlbauer, M. (2007, August 31). *Workflow Modeling With UML Activity Diagrams.* Retrieved from https://www.batimes.com/articles/workflow-modeling-with-uml-activity-diagrams.html

Schleier, J. G., & Cox, J. F. (2010). *Theory of Constraints Handbook*. New York: McGraw-Hill Professional.

Schwartz, M., Skinner, R. & Bowen, Z. (2009). *Faculty, Governing Boards, and Institutional Governance*. Retrieved from http://agb.org/sites/default/files/legacy/u16/FacultyGoverning%20BoardsandInstitutionalGovernance_final.pdf

Shared Governance. (n.d.). Retrieved from https://www.aaup.org/our-programs/shared-governance

Sharp, D. E. (2003). *Call Center Operation: Design, Operation, and Maintenance*. Amsterdam: Digital Press.

Shattock, M. (2001). The Academic Profession in Britain: A Study in the Failure to Adapt to Change. *Higher Education*, (1/2), 27.

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education For Information, 22*(2), 63.

Smerek, R. E., & Peterson, M. (2007). EXAMINING HERZBERG'S THEORY: Improving Job Satisfaction among Non-Academic Employees at a University. *Research in Higher Education, 2*, 229.

Staškevičiūtė, I., Neverauskas, B., & Čiutienė, R. (2006). Applying the Principles of Organisational Intelligence in University Strategies. *Engineering Economics, 48*(3), 63-72.

Thierauf, R. J. (1999). *Knowledge Management Systems for Business*. Westport, Conn: Greenwood Publishing Group.

Tight, M. (2010). Are Academic Workloads Increasing? The Post-War Survey Evidence in the UK. *Higher Education Quarterly, 64*(2), 200-215. doi:10.1111/j.1468-2273.2009.00433.x

Timeline of the First 100 Years. (n.d.). Retrieved from https://www.aaup.org/about/history/timeline-first-100-years

University System of Georgia. (n.d.). Retrieved from http://www.usg.edu/institutions/

Waters, M. (1989). Collegiality, Bureaucratization, and Professionalization: A Weberian Analysis. *American Journal of Sociology*, (5). 945.

Weber, M. (2003). Bureaucracy and Legitimate Authority. In M. Handel (Ed.), *The Sociology of Organizations: Classic, Contemporary, and Critical Readings* (pp. 17-23). Thousand Oaks, CA: Sage Publications Ins. (Original work published 1924)

Weber, M., & Parsons, T. (1964). *The theory of social and economic organization*. New York: Free Press.

Weber, M., & Roth, G. (1968). *Economy and society; an outline of interpretive sociology*. New York, Bedminster Press, 1968.

Weisbuch, R. (2015, March 27). Shared Governance or Snared Governance?. *Chronicle of Higher Education*. p. 16.

Wohlhaupter, P. (2012). *Research in Business Process Management: A bibliometric analysis*. (Diploma thesis, University of Ulm). Retrieved from http://dbis.eprints.uni-ulm.de/803/1/DA_Wohlhaupter_12.pdf

Workflow [Def. 1]. (n.d.). In *Oxford Living Dictionaries*, Retrieved April 17, 2017, from https://en.oxforddictionaries.com/definition/workflow

APPENDIX A:

Survey Instrument

Organizational Knowledge Shared Along Workflows at UWG

Start of Block: Introduction

Q38 You are being asked to participate in a survey research study titled *"The Communication of Organizational Knowledge along Workflows a the University of West Georgia,"* which is being conducted by Harry Nelson, a doctoral student at Valdosta State University. The purpose of this study is to assess perceptions of knowledge sharing between Business & Finance and Academic Affairs at UWG. The study will also assess perceptions of conflict associate with business procedure at UWG. This research study is anonymous. No one, including the researcher, will be able to associate your responses with your identity. Your participation is voluntary. You may choose not to participate, to stop responding at any time, or to skip questions that you do not want to answer. You must be at least 18 years of age to participate in this study. Your participation serves as your voluntary agreement to participate in this research project and your certification that you are 18 or older. At the end of the survey you can enter your email for a drawing for one of two $10 Starbucks Gift Cards.
Questions regarding the purpose or procedures of the research should be directed to Harry Nelson at hanelson@valdosta.edu. This study has been exempted from Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229-259-5045 or irb@valdosta.edu.

End of Block: Introduction

Start of Block: Preliminary Information

Q1 Budget amendments, hiring proposals and purchasing requests all follow a workflow that starts at the department level and moves up through various stages of approval.

Please indicate your point in the workflow for the approval of budget amendments, hiring proposals and purchase requests.

- ○ I am a staff member working in an academic department (chemistry department, history department, etc.), but I am not the chair of that department. I initiate these processes. (1)
- ○ I am a faculty member serving in an administrative role (department chair, dean, associate dean, provost, etc.). I approve decisions for this process, based on departmental needs. (2)
- ○ I am a staff member working in a dean's office (this includes assistant dean (staff) positions), but I am not the dean, or associate dean. I review submissions for these processes and inform the approver. (3)
- ○ I am a staff member working in the provost's office but I am not the provost, assistant provost, associate provost etc. I review submissions for these processes and inform the approver. (4)
- ○ I am a staff member in the Business and Finance division. I work with the final submitted documents for these three processes. (5)

Skip To: End of Block If Budget amendments, hiring proposals and purchasing requests all follow a workflow that starts at... = I am a staff member working in an academic department (chemistry department, history department, etc.), but I am not the chair of that department. I initiate these processes.

Skip To: End of Block If Budget amendments, hiring proposals and purchasing requests all follow a workflow that starts at... = I am a faculty member serving in an administrative role (department chair, dean, associate dean, provost, etc.). I approve decisions for this process, based on departmental needs.

Skip To: End of Block If Budget amendments, hiring proposals and purchasing requests all follow a workflow that starts at... = I am a staff member working in a dean's office (this includes assistant dean (staff) positions), but I am not the dean, or associate dean. I review submissions for these processes and inform the approver.

Skip To: End of Block If Budget amendments, hiring proposals and purchasing requests all follow a workflow that starts at... = I am a staff member working in the provost's office but I am not the provost, assistant provost, associate provost etc. I review submissions for these processes and inform the approver.

Q2 For Business and Finance staff, which of these processes do you work with primarily?

- ○ Budget Amendments (1)
- ○ Hiring Proposals (2)
- ○ Purchase Requests (3)
- ○ Not applicable (4)

Skip To: Q3 If For Business and Finance staff, which of these processes do you work with primarily? = Budget Amendments

Skip To: Q4 If For Business and Finance staff, which of these processes do you work with primarily? = Hiring Proposals

Skip To: Q5 If For Business and Finance staff, which of these processes do you work with primarily? = Purchase Requests

Skip To: Q9 If For Business and Finance staff, which of these processes do you work with primarily? = Not applicable

Q3 Does an outside agency govern the processes associated with budget amendments?

- ○ Yes (1)
- ○ No (2)

Skip To: Q6 If Does an outside agency govern the processes associated with budget amendments? = Yes

Skip To: Q9 If Does an outside agency govern the processes associated with budget amendments? = No

Q4 Does an outside agency govern the processes associated with hiring proposals?

- ○ Yes (1)
- ○ No (2)

Skip To: Q7 If Does an outside agency govern the processes associated with hiring proposals? = Yes

Skip To: Q9 If Does an outside agency govern the processes associated with hiring proposals? = No

Q5 Does an outside agency govern the processes associated with purchase requests?

- ○ Yes (1)
- ○ No (2)

Skip To: Q8 If Does an outside agency govern the processes associated with purchase requests? = Yes

Skip To: Q9 If Does an outside agency govern the processes associated with purchase requests? = No

Q6 If an outside agency governs the processes for budget amendments, please name the agency or agencies.

_____

_____

_____

_____

_____

Skip To: Q9 If If an outside agency governs the processes for budget amendments, please name the agency or agenc... Is Not Empty

Q7 If an outside agency governs the processes for hiring proposals, please name the agency or agencies.

_____

_____

_____

_____

_____

Skip To: Q9 If If an outside agency governs the processes for hiring proposals, please name the agency or agencies. Is Not Empty

Q8 If an outside agency governs the processes for purchase requests, please name the agency or agencies.

_____

_____

_____

_____

_____

Q9 Do you supervise staff (not student assistants)?

- Yes (1)
- No (2)

Q10 Are you an assistant director or director?

- Yes (1)
- No (2)

Skip To: End of Block If Are you an assistant director or director? = No

Q11 As a director, my job requires specialized knowledge in the area of:

- ☐ Human Resources (1)
- ☐ Labor Law (2)
- ☐ Accounting (3)
- ☐ Not applicable (4)
- ☐ Other (5)

Q12 If "Other" then please list:

_____

_____

_____

_____

_____

End of Block: Preliminary Information

Start of Block: Level of Knowledge Sharing

Q13 In the budget amendment process, please rate what you think is the level of understanding and knowledge of Business and Finance processes and procedures at the

academic department level. (Academic departments are: Department of Art, Department of Chemistry, etc.)

- ○ Complete knowledge (1)
- ○ A reasonable amount of knowledge (2)
- ○ Some knowledge (3)
- ○ Below average knowledge (4)
- ○ Absolutely no knowledge (5)

Q14 On what evidence do you base the rating in the question above?

- ☐ Academic departments have questions about the budget amendment process (1)
- ☐ Academic departments have to correct mistakes on budget amendments (2)
- ☐ There is an increased level of assistance with budget amendments from Business and Finance staff (3)
- ☐ Other (4)

Q15 If you answered "Other" on the question above please explain.

_____

_____

_____

_____

_____

Q16 In the process for hiring a new staff line, please rate what you think is the level of understanding and knowledge of Business and Finance processes and procedures at the academic department level. (Academic departments are: Department of Art, Department of Chemistry, etc.)

- ○ Complete knowledge (1)
- ○ A reasonable amount of knowledge (2)
- ○ Some knowledge (3)
- ○ Below average knowledge (4)
- ○ Absolutely no knowledge (5)

Q17 On what evidence do you base the rating in the question above?

- ☐ Academic departments have questions about the hiring process (1)
- ☐ Academic departments have to correct mistakes in the hiring process (2)
- ☐ There is an increased level of assistance from Business and Finance staff in the hiring process (3)
- ☐ Other (4)

Q18 If you answered "Other" on the question above please explain.

_____

_____

_____

_____

_____

Q19 In the process for submitting non-routine purchase requests for items that require additional review and explanation, please rate what you think is the level of understanding and knowledge of Business and Finance processes and procedures at the academic department level. (Academic departments are: Department of Art, Department of Chemistry, etc. A non-routine purchase is something that would not normally be purchased with state funds.)

- ○ Complete knowledge (1)
- ○ A reasonable amount of knowledge (2)
- ○ Some knowledge (3)
- ○ Below average knowledge (4)
- ○ Absolutely no knowledge (5)

Q20 On what evidence do you base the rating in the question above?

- [ ] Academic departments have questions about the process for requesting non-routine purchases (1)
- [ ] Academic departments have to correct mistakes with non-routine purchases (2)
- [ ] There is an increased level of assistance from Business and Finance staff when departments make non-routine purchases (3)
- [ ] Other (4)

Q21 If you answered "Other" on the question above please explain.

_____

_____

_____

_____

_____

End of Block: Level of Knowledge Sharing

Start of Block: Presence of Conflict

Q22 Are you Faculty or Staff?

- ○ Faculty (1)
- ○ Staff (2)

Skip To: Q24 If Are you Faculty or Staff? = Faculty

Skip To: Q23 If Are you Faculty or Staff? = Staff

Q23 Do you interact with academic faculty (professors and department chairs)?

- Yes (1)
- No (2)

Skip To: Q25 If Do you interact with academic faculty (professors and department chairs)? = Yes

Skip To: Q25 If Do you interact with academic faculty (professors and department chairs)? = No

Q24 Do you interact with business office staff?

- Yes (1)
- No (2)

Skip To: Q28 If Do you interact with business office staff? = Yes

Skip To: Q28 If Do you interact with business office staff? = No

Q25 Please rate the level of conflict that you perceive in your interactions with academic faculty in the budget amendment process.

- No conflict (1)
- Some conflict (2)
- Moderate conflict (3)
- Above average conflict (4)
- Extreme conflict (5)

Q26 Please rate the level of conflict that you perceive in your interactions with academic faculty in the process for hiring new staff.

- ○ No conflict (1)
- ○ Some conflict (2)
- ○ Moderate conflict (3)
- ○ Above average conflict (4)
- ○ Extreme conflict (5)

Q27 Please rate the level of conflict that you perceive in your interactions with academic faculty in the process of making non-routine purchases.

- ○ No conflict (1)
- ○ Some conflict (2)
- ○ Moderate conflict (3)
- ○ Above average conflict (4)
- ○ Extreme conflict (5)

Skip To: End of Block If Please rate the level of conflict that you perceive in your interactions with academic faculty in... = No conflict

Skip To: End of Block If Please rate the level of conflict that you perceive in your interactions with academic faculty in... = Some conflict

Skip To: End of Block If Please rate the level of conflict that you perceive in your interactions with academic faculty in... = Moderate conflict

Skip To: End of Block If Please rate the level of conflict that you perceive in your interactions with academic faculty in... = Above average conflict

Skip To: End of Block If Please rate the level of conflict that you perceive in your interactions with academic faculty in... = Extreme conflict

---

Q28 Please rate the level of conflict that you perceive in your interactions with Business and Finance staff in the budget amendment process.

- ○ No conflict (1)
- ○ Some conflict (2)
- ○ Moderate conflict (3)
- ○ Above average conflict (4)
- ○ Extreme conflict (5)

Q29 Please rate the level of conflict that you perceive in your interactions with Business and Finance staff in the process for hiring new staff.

- ○ No conflict (1)
- ○ Some conflict (2)
- ○ Moderate conflict (3)
- ○ Above average conflict (4)
- ○ Extreme conflict (5)

Q30 Please rate the level of conflict that you perceive in your interactions with Business and Finance staff in the process of making non-routine purchases.

- ○ No conflict (1)
- ○ Some conflict (2)
- ○ Moderate conflict (3)
- ○ Above average conflict (4)
- ○ Extreme conflict (5)

Q40 If you have any other thoughts to share please do so below.

_____

_____

_____

_____

_____

Skip To: End of Survey If If you have any other thoughts to share please do so below. Is Empty

Skip To: End of Survey If If you have any other thoughts to share please do so below. Is Not Empty

End of Block: Presence of Conflict

Start of Block: Degree of comfort with knowledge sharing

Q31 How comfortable are you with making your work processes public to your coworkers?

- ○ Extremely comfortable (1)
- ○ Somewhat comfortable (2)
- ○ Neither comfortable nor uncomfortable (3)
- ○ Somewhat uncomfortable (4)
- ○ Extremely uncomfortable (5)

Q32 How comfortable are you with making your work processes public to your coworkers, and open to private suggestion?

- ○ Extremely comfortable (1)
- ○ Somewhat comfortable (2)
- ○ Neither comfortable nor uncomfortable (3)
- ○ Somewhat uncomfortable (4)
- ○ Extremely uncomfortable (5)

Q33 How comfortable are you with making your work processes public to your coworkers and open to public suggestion?

- ○ Extremely comfortable (1)
- ○ Somewhat comfortable (2)
- ○ Neither comfortable nor uncomfortable (3)
- ○ Somewhat uncomfortable (4)
- ○ Extremely uncomfortable (5)

Q34 How comfortable are you with making your work processes public to your coworkers, and being required to change them based on private oversight?

- ○ Extremely comfortable (1)
- ○ Somewhat comfortable (2)
- ○ Neither comfortable nor uncomfortable (3)
- ○ Somewhat uncomfortable (4)
- ○ Extremely uncomfortable (5)

Q35 How comfortable are you with making your work processes public to your coworkers, and being required to change them based on public and private oversight?

- ○ Extremely comfortable (1)
- ○ Somewhat comfortable (2)
- ○ Neither comfortable nor uncomfortable (3)
- ○ Somewhat uncomfortable (4)
- ○ Extremely uncomfortable (5)

Q36 If you were required to change your work processes based on public or private oversight, who should provide that oversight?

- ○ Departments that report to you (1)
- ○ Departments that are on the same level as your department (2)
- ○ Both departments that report to you, and departments on the same level as your department (3)
- ○ Both departments that are on the same level as your department, and departments that you report to (4)
- ○ Departments that you report to (5)
- ○ Other (6)

Q37 If you answered "Other" on the question above please explain.

_____

_____

_____

_____

_____

Q39 If you have any other thoughts to share please do so below.

_____

_____

_____

_____

_____

End of Block: Degree of comfort with knowledge sharing

APPENDIX B

Follow-up Survey

Nelson DPA Survey - Incentive Drawing

Start of Block: Default Question Block

Q1 If you would like to enter the drawing for the Starbucks Gift Card, please enter your email below. This is a new survey link and is not connected with the anonymous data in the previous survey.

_____

End of Block: Default Question Block

APPENDIX C

Survey Data

		All Three Processes		Budget Amendment Process		Hiring Process		Purchasing Process	
		Knowledge Sharing	Presence of Conflict	Knowledge Sharing	Presence of Conflict	Knowledge Sharing	Presence of Conflict	Knowledge Sharing	Presence of Conflict
Respondent 1	Faculty Admin	11	5	4	1	5	3	2	1
Respondent 2	Faculty Admin	11	15	3	5	4	5	4	5
Respondent 3	Faculty Admin	11	8	3	3	4	2	4	3
Respondent 4	Faculty Admin	7	7	2	2	3	2	2	3
Respondent 5	Faculty Admin	4	9	2	3	1	3	1	3
Respondent 6	Faculty Admin	8	5	3	2	3	2	2	1
Respondent 7	Faculty Admin	9	7	3	2	2	3	4	2
Respondent 8	Faculty Admin	6	5	2	1	2	3	2	1
Respondent 9	Faculty Admin	11	4	3	1	3	2	5	1
Respondent 10	Faculty Admin	7	4	3	1	1	2	3	1
Respondent 11	Faculty Admin	7	9	2	2	2	4	3	3
Respondent 12	Faculty Admin	6	6	3	2	3	2	0	2
Respondent 13	Faculty Admin	8	6	3	2	2	2	3	2
Respondent 14	Faculty Admin	9	10	2	4	5	3	2	3
Respondent 15	Faculty Admin	7	4	2	1	3	2	2	1
Respondent 16	Faculty Admin	10	5	3	1	3	2	4	2
Respondent 17	Faculty Admin	7	4	3	1	2	2	2	1
Respondent 18	Faculty Admin	7	3	2	1	2	1	3	1
Respondent 19	Faculty Admin	6	3	2	1	2	1	2	1
Respondent 20	Faculty Admin	12	7	4	2	4	2	4	3
Respondent 21	Faculty Admin	3	3	1	1	1	1	1	1
Respondent 22	Faculty Admin	6	6	2	2	2	2	2	2
Respondent 23	Faculty Admin	7	10	2	4	2	2	3	4
Respondent 24	Faculty Admin	10	0	3	0	3	0	4	0
Respondent 25	Faculty Admin	7	5	3	2	2	1	2	2
Respondent 26	B & F Staff	11	6	4	2	3	1	4	3
Respondent 27	B & F Staff	8	10	3	4	2	3	3	3
Respondent 28	B & F Staff	6	4	3	2	3	2	0	0
Respondent 29	B & F Staff	10	3	3	1	4	1	3	1
Respondent 30	B & F Staff	9	7	3	2	3	3	3	2
Respondent 31	B & F Staff	11	7	4	3	4	1	3	3
Respondent 32	B & F Staff	12	7	4	3	4	2	4	2
Respondent 33	B & F Staff	9	6	3	2	3	2	3	2
Respondent 34	B & F Staff	7	6	2	2	3	2	2	2
Respondent 35	B & F Staff	8	3	3	1	3	1	2	1
Respondent 36	B & F Staff	6	3	2	1	2	1	2	1
Respondent 37	B & F Staff	4	5	2	2	2	3	0	0
Respondent 38	B & F Staff	12	3	4	1	3	2	5	0
Respondent 39	B & F Staff	12	7	4	2	4	3	4	2
Respondent 40	B & F Staff	6	6	2	2	2	2	2	2
Respondent 41	B & F Staff	9	3	3	1	3	1	3	1
Respondent 42	B & F Staff	6	0	3	0	3	0	0	0
Respondent 43	B & F Staff	12	11	4	3	4	4	4	4
Respondent 44	B & F Staff	9	3	3	1	3	1	3	1
Respondent 45	B & F Staff	5	3	2	1	3	1	0	1
Respondent 46	B & F Staff	4	3	2	0	2	3	0	0
Respondent 47	DO Staff	10	9	3	3	3	3	4	3
Respondent 48	DO Staff	9	4	3	1	4	1	2	2
Respondent 49	DO Staff	7	3	2	1	2	1	3	1
Respondent 50	DO Staff	8	3	3	1	3	1	2	1
Respondent 51	DO Staff	4	4	2	1	1	1	1	2
Respondent 52	DO Staff	6	6	2	2	2	2	2	2
Respondent 53	DO Staff	6	4	0	1	2	1	4	2
Respondent 54	DO Staff	6	6	2	2	2	2	2	2
Respondent 55	DO Staff	6	3	2	1	2	1	2	1
Respondent 56	Dept. Staff	9	3	2	1	4	1	3	1
Respondent 57	Dept. Staff	8	5	2	1	3	2	3	2
Respondent 58	Dept. Staff	11	3	4	1	4	1	3	1
Respondent 59	Dept. Staff	9	6	4	2	3	2	2	2
Respondent 60	Dept. Staff	7	5	3	1	3	2	1	2
Respondent 61	Dept. Staff	8	4	1	1	3	1	4	2
Respondent 62	Dept. Staff	9	10	2	3	4	3	3	4
Respondent 63	Dept. Staff	6	4	2	1	2	1	2	2
Respondent 64	Dept. Staff	6	3	2	1	2	1	2	1
Respondent 65	Dept. Staff	9	3	3	1	3	1	3	1
Respondent 66	Dept. Staff	6	5	2	2	2	2	2	1
Respondent 67	Dept. Staff	9	5	2	2	4	1	3	2
Respondent 68	Dept. Staff	7	5	2	1	2	2	3	2
Respondent 69	Dept. Staff	9	3	3	1	3	1	3	1
Respondent 70	Dept. Staff	6	5	2	2	2	1	2	2
Respondent 71	Dept. Staff	5	3	1	1	2	1	2	1
Respondent 72	Provost Staff	9	3	3	1	3	1	3	1
Respondent 73	Provost Staff	5	3	2	1	1	1	2	1
Respondent 74	Provost Staff	6	6	2	2	2	2	2	2
Respondent 75	Provost Staff	6	3	2	1	2	1	2	1

Cumulative scores comparing levels of knowledge sharing vs. levels of percieved conflict

Budget Amendment Process
Hiring Process
Purchasing Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)		Σx	Σy	Σxy	Σx^2	Σy^2	N
2	Respondent 1	11	5	55	121	25		585	385	3124	4933	2459	75
3	Respondent 2	11	15	165	121	225		=SUM(B:B)	=SUM(C:C)	=SUM(D:D)	=SUM(E:E)	=SUM(F:F)	=COUNTA(A:A)-1
4	Respondent 3	11	8	88	121	64							
5	Respondent 4	7	7	49	49	49						(Correlation Coefficient) r =	0.286326
6	Respondent 5	4	9	36	16	81							=((M2*J2)-(H2*I2))/SQRT(((M2*K2)-(H2^2))*((M2*L2)-(I2^2)))
7	Respondent 6	8	5	40	64	25						df =	73
8	Respondent 7	9	7	63	81	49							=M2-2
9	Respondent 8	6	5	30	36	25						t =	2.5532705
10	Respondent 9	11	4	44	121	16							=M5/SQRT((1-M5^2)/(M7))
11	Respondent 10	7	4	28	49	16						1 tailed p = P(T > t)	0.0063802
12	Respondent 11	7	9	63	49	81							=1-T.DIST(ABS(M9),M7,TRUE)
13	Respondent 12	6	6	36	36	36						2 tailed p = 2×P(T > t)	0.0127604
14	Respondent 13	8	6	48	64	36							=2*M11
15	Respondent 14	9	10	90	81	100							<
16	Respondent 15	7	4	28	49	16			0.1	0.05	0.025	**0.01**	**0.005**
17	Respondent 16	10	5	50	100	25			0.2	0.1	0.05	**0.02**	**0.01**
18	Respondent 17	7	4	28	49	16							
19	Respondent 18	7	3	21	49	9		*r*	0.1497	0.1914	0.2272	**0.2682**	**0.2957**
20	Respondent 19	6	3	18	36	9							
21	Respondent 20	12	7	84	144	49		*t*	1.293	1.666	1.993	**2.379**	**2.645**
22	Respondent 21	3	3	9	9	9							
23	Respondent 22	6	6	36	36	36							
24	Respondent 23	7	10	70	49	100							
25	Respondent 24	10	0	0	100	0							
26	Respondent 25	7	5	35	49	25							
27	Respondent 26	11	6	66	121	36							
28	Respondent 27	8	10	80	64	100							
29	Respondent 28	6	4	24	36	16							
30	Respondent 29	10	3	30	100	9							
31	Respondent 30	9	7	63	81	49							
32	Respondent 31	11	7	77	121	49							
33	Respondent 32	12	7	84	144	49							
34	Respondent 33	9	6	54	81	36							
35	Respondent 34	7	6	42	49	36							
36	Respondent 35	8	3	24	64	9							
37	Respondent 36	6	3	18	36	9							
38	Respondent 37	4	5	20	16	25							
39	Respondent 38	12	3	36	144	9							
40	Respondent 39	12	7	84	144	49							
41	Respondent 40	6	6	36	36	36							
42	Respondent 41	9	3	27	81	9							
43	Respondent 42	6	0	0	36	0							
44	Respondent 43	12	11	132	144	121							
45	Respondent 44	9	3	27	81	9							
46	Respondent 45	5	3	15	25	9							
47	Respondent 46	4	3	12	16	9							
48	Respondent 47	10	9	90	100	81							
49	Respondent 48	9	4	36	81	16							
50	Respondent 49	7	3	21	49	9							
51	Respondent 50	8	3	24	64	9							

Cumulative scores comparing levels of knowledge sharing vs. levels of percieved conflict

Budget Amendment Process
Hiring Process
Purchasing Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
52	Respondent 51	4	4	16	16	16							
53	Respondent 52	6	6	36	36	36							
54	Respondent 53	6	4	24	36	16							
55	Respondent 54	6	6	36	36	36							
56	Respondent 55	6	3	18	36	9							
57	Respondent 56	9	3	27	81	9							
58	Respondent 57	8	5	40	64	25							
59	Respondent 58	11	3	33	121	9							
60	Respondent 59	9	6	54	81	36							
61	Respondent 60	7	5	35	49	25							
62	Respondent 61	8	4	32	64	16							
63	Respondent 62	9	10	90	81	100							
64	Respondent 63	6	4	24	36	16							
65	Respondent 64	6	3	18	36	9							
66	Respondent 65	9	3	27	81	9							
67	Respondent 66	6	5	30	36	25							
68	Respondent 67	9	5	45	81	25							
69	Respondent 68	7	5	35	49	25							
70	Respondent 69	9	3	27	81	9							
71	Respondent 70	6	5	30	36	25							
72	Respondent 71	5	3	15	25	9							
73	Respondent 72	9	3	27	81	9							
74	Respondent 73	5	3	15	25	9							
75	Respondent 74	6	6	36	36	36							
76	Respondent 75	6	3	18	36	9							
77			*For (xy) use =B2*C2; =B3*C3; etc.*										
78			*For (x^2) use =B2^2; =B3^2; etc.*										
79			*For (y^2) use =C2^2; =C3^2; etc.*										

Scores comparing levels of knowledge sharing vs. levels of percieved conflict

Budget Amendment Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)		Σx	Σy	Σxy	Σx2	Σy2	N
2	Respondent 1	4	1	4	16	1		193	123	326	547	269	75
3	Respondent 2	3	5	15	9	25		=SUM(B:B)	=SUM(C:C)	=SUM(D:D)	=SUM(E:E)	=SUM(F:F)	=COUNTA(A:A)-1
4	Respondent 3	3	3	9	9	9							
5	Respondent 4	2	2	4	4	4					(Correlation Coefficient) r =		0.1628846
6	Respondent 5	2	3	6	4	9					=((M2*J2)-(H2*I2))/SQRT(((M2*K2)-(H2^2))*((M2*L2)-(I2^2)))		
7	Respondent 6	3	2	6	9	4						df =	73
8	Respondent 7	3	2	6	9	4						=M2-2	
9	Respondent 8	2	1	2	4	1						t =	1.4105239
10	Respondent 9	3	1	3	9	1						=M5/SQRT((1-M5^2)/(M7))	
11	Respondent 10	3	1	3	9	1						1 tailed p = P(T > t)	0.0813161
12	Respondent 11	2	2	4	4	4						=T.DIST(ABS(M5),M7,TRUE)	
13	Respondent 12	3	2	6	9	4						2 tailed p = 2×P(T > t)	0.1626322
14	Respondent 13	3	2	6	9	4							=2*M11
15	Respondent 14	2	4	8	4	16			<				
16	Respondent 15	2	1	2	4	1			**0.1**	**0.05**	0.025	0.01	0.005
17	Respondent 16	3	1	3	9	1			**0.2**	**0.1**	0.05	0.02	0.01
18	Respondent 17	3	1	3	9	1							
19	Respondent 18	2	1	2	4	1		*r*	**0.1497**	**0.1914**	0.2272	0.2682	0.2957
20	Respondent 19	2	1	2	4	1							
21	Respondent 20	4	2	8	16	4		*t*	**1.293**	**1.666**	1.993	2.379	2.645
22	Respondent 21	1	1	1	1	1							
23	Respondent 22	2	2	4	4	4					=AVERAGE(B:B)	=STDEV.S(B:B)	
24	Respondent 23	2	4	8	4	16			Data for Table 2		Average		
25	Respondent 24	3	0	0	9	0			Knowledge Sharing		Response	SD	
26	Respondent 25	3	2	6	9	4			Overall		2.57	0.82	
27	Respondent 26	4	2	8	16	4			*Business Office Staff*		3.00	0.77	
28	Respondent 27	3	4	12	9	16			*Administrative Faculty*		2.60	0.71	
29	Respondent 28	3	2	6	9	4			*Academic Department Staff*		2.31	0.87	
30	Respondent 29	3	1	3	9	1			*Dean's Office Staff*		2.11	0.93	
31	Respondent 30	3	2	6	9	4			*Provost's Office Staff*		2.25	0.50	
32	Respondent 31	4	3	12	16	9							
33	Respondent 32	4	3	12	16	9					=AVERAGE(C:C)	=STDEV.S(C:C)	
34	Respondent 33	3	2	6	9	4			Data for Table 3		Average		
35	Respondent 34	2	2	4	4	4			Presence of Conflict		Response	SD	
36	Respondent 35	3	1	3	9	1			Overall		1.64	0.95	
37	Respondent 36	2	1	2	4	1			*Administrative Faculty*		1.88	1.17	
38	Respondent 37	2	2	4	4	4			*Business Office Staff*		1.71	1.01	
39	Respondent 38	4	1	4	16	1			*Dean's Office Staff*		1.44	0.73	
40	Respondent 39	4	2	8	16	4			*Academic Department Staff*		1.38	0.62	
41	Respondent 40	2	2	4	4	4			*Provost's Office Staff*		1.25	0.50	
42	Respondent 41	3	1	3	9	1							
43	Respondent 42	3	0	0	9	0							
44	Respondent 43	4	3	12	16	9							
45	Respondent 44	3	1	3	9	1							
46	Respondent 45	2	1	2	4	1							
47	Respondent 46	2	0	0	4	0							
48	Respondent 47	3	3	9	9	9							
49	Respondent 48	3	1	3	9	1							
50	Respondent 49	2	1	2	4	1							
51	Respondent 50	3	1	3	9	1							
52	Respondent 51	2	1	2	4	1							

Scores comparing levels of knowledge sharing vs. levels of percieved conflict

Budget Amendment Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
53	Respondent 52	2	2	4	4	4							
54	Respondent 53	0	1	0	0	1							
55	Respondent 54	2	2	4	4	4							
56	Respondent 55	2	1	2	4	1							
57	Respondent 56	2	1	2	4	1							
58	Respondent 57	2	1	2	4	1							
59	Respondent 58	4	1	4	16	1							
60	Respondent 59	4	2	8	16	4							
61	Respondent 60	3	1	3	9	1							
62	Respondent 61	1	1	1	1	1							
63	Respondent 62	2	3	6	4	9							
64	Respondent 63	2	1	2	4	1							
65	Respondent 64	2	1	2	4	1							
66	Respondent 65	3	1	3	9	1							
67	Respondent 66	2	2	4	4	4							
68	Respondent 67	2	2	4	4	4							
69	Respondent 68	2	1	2	4	1							
70	Respondent 69	3	1	3	9	1							
71	Respondent 70	2	2	4	4	4							
72	Respondent 71	1	1	1	1	1							
73	Respondent 72	3	1	3	9	1							
74	Respondent 73	2	1	2	4	1							
75	Respondent 74	2	2	4	4	4							
76	Respondent 75	2	1	2	4	1							
77			*For (xy) use =B2*C2; =B3*C3; etc.*										
78			*For (x^2) use =B2^2; =B3^2; etc.*										
79			*For (y^2) use =C2^2; =C3^2; etc.*										

Scores comparing levels of knowledge sharing
vs. levels of percieved conflict

Hiring Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)		Σx	Σy	Σxy	Σx2	Σy2	N
2	Respondent 1	5	3	15	25	9		204	134	374	618	304	75
3	Respondent 2	4	5	20	16	25		=SUM(B:B)	=SUM(C:C)	=SUM(D:D)	=SUM(E:E)	=SUM(F:F)	=COUNTA(A:A)-1
4	Respondent 3	4	2	8	16	4							
5	Respondent 4	3	2	6	9	4						(Correlation Coefficient) r =	0.1491015
6	Respondent 5	1	3	3	1	9						=((M2*J2)-(H2*I2))/SQRT(((M2*K2)-(H2^2))*((M2*L2)-(I2^2)))	
7	Respondent 6	3	2	6	9	4						df =	73
8	Respondent 7	2	3	6	4	9						=M2-2	
9	Respondent 8	2	3	6	4	9						t =	1.2883248
10	Respondent 9	3	2	6	9	4						=M5/SQRT((1-M5^2)/(M7))	
11	Respondent 10	1	2	2	1	4						1 tailed p = P(T > t)	0.1008507
12	Respondent 11	2	4	8	4	16						=T.DIST(ABS(M9),M7,TRUE)	
13	Respondent 12	3	2	6	9	4						2 tailed p = 2×P(T > t)	0.2017014
14	Respondent 13	2	2	4	4	4						=2*M11	
15	Respondent 14	5	3	15	25	9			>				
16	Respondent 15	3	2	6	9	4			**0.1**	0.05	0.025	0.01	0.005
17	Respondent 16	3	2	6	9	4			**0.2**	0.1	0.05	0.02	0.01
18	Respondent 17	2	2	4	4	4							
19	Respondent 18	2	1	2	4	1		*r*	**0.1497**	0.1914	0.2272	0.2682	0.2957
20	Respondent 19	2	1	2	4	1							
21	Respondent 20	4	2	8	16	4		*t*	**1.293**	1.666	1.993	2.379	2.645
22	Respondent 21	1	1	1	1	1							
23	Respondent 22	2	2	4	4	4					=AVERAGE(B:B)	=STDEV.S(B:B)	
24	Respondent 23	2	2	4	4	4			Data for Table 2		Average		
25	Respondent 24	3	0	0	9	0			Knowledge Sharing		Response	SD	
26	Respondent 25	2	1	2	4	1			Overall		2.72	0.92	
27	Respondent 26	3	1	3	9	1			*Business Office Staff*		3.00	0.71	
28	Respondent 27	2	3	6	4	9			*Administrative Faculty*		2.64	1.11	
29	Respondent 28	3	2	6	9	4			*Academic Department Staff*		2.88	0.81	
30	Respondent 29	4	1	4	16	1			*Dean's Office Staff*		2.33	0.87	
31	Respondent 30	3	3	9	9	9			*Provost's Office Staff*		2.00	0.82	
32	Respondent 31	4	1	4	16	1							
33	Respondent 32	4	2	8	16	4					=AVERAGE(C:C)	=STDEV.S(C:C)	
34	Respondent 33	3	2	6	9	4			Data for Table 3		Average		
35	Respondent 34	3	2	6	9	4			Presence of Conflict		Response	SD	
36	Respondent 35	3	1	3	9	1			Overall		1.79	0.93	
37	Respondent 36	2	1	2	4	1			*Administrative Faculty*		2.16	1.03	
38	Respondent 37	2	3	6	4	9			*Business Office Staff*		1.86	1.01	
39	Respondent 38	3	2	6	9	4			*Dean's Office Staff*		1.44	0.73	
40	Respondent 39	4	3	12	16	9			*Academic Department Staff*		1.44	0.63	
41	Respondent 40	2	2	4	4	4			*Provost's Office Staff*		1.25	0.50	
42	Respondent 41	3	1	3	9	1							
43	Respondent 42	3	0	0	9	0							
44	Respondent 43	4	4	16	16	16							
45	Respondent 44	3	1	3	9	1							
46	Respondent 45	3	1	3	9	1							
47	Respondent 46	2	3	6	4	9							
48	Respondent 47	3	3	9	9	9							
49	Respondent 48	4	1	4	16	1							
50	Respondent 49	2	1	2	4	1							
51	Respondent 50	3	1	3	9	1							
52	Respondent 51	1	1	1	1	1							

Scores comparing levels of knowledge sharing
vs. levels of percieved conflict

Hiring Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
53	Respondent 52	2	2	4	4	4							
54	Respondent 53	2	1	2	4	1							
55	Respondent 54	2	2	4	4	4							
56	Respondent 55	2	1	2	4	1							
57	Respondent 56	4	1	4	16	1							
58	Respondent 57	3	2	6	9	4							
59	Respondent 58	4	1	4	16	1							
60	Respondent 59	3	2	6	9	4							
61	Respondent 60	3	2	6	9	4							
62	Respondent 61	3	1	3	9	1							
63	Respondent 62	4	3	12	16	9							
64	Respondent 63	2	1	2	4	1							
65	Respondent 64	2	1	2	4	1							
66	Respondent 65	3	1	3	9	1							
67	Respondent 66	2	2	4	4	4							
68	Respondent 67	4	1	4	16	1							
69	Respondent 68	2	2	4	4	4							
70	Respondent 69	3	1	3	9	1							
71	Respondent 70	2	1	2	4	1							
72	Respondent 71	2	1	2	4	1							
73	Respondent 72	3	1	3	9	1							
74	Respondent 73	1	1	1	1	1							
75	Respondent 74	2	2	4	4	4							
76	Respondent 75	2	1	2	4	1							
77			*For (xy) use =B2*C2; =B3*C3; etc.*										
78			*For (x^2) use =B2^2; =B3^2; etc.*										
79			*For (y^2) use =C2^2; =C3^2; etc.*										

Scores comparing levels of knowledge sharing vs. levels of percieved conflict

Purchasing Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)		Σx	Σy	Σxy	Σx2	Σy2	N
2	Respondent 1	2	1	2	4	1		188	128	351	572	296	75
3	Respondent 2	4	5	20	16	25		=SUM(B:B)	=SUM(C:C)	=SUM(D:D)	=SUM(E:E)	=SUM(F:F)	=COUNTA(A:A)-1
4	Respondent 3	4	3	12	16	9							
5	Respondent 4	2	3	6	4	9						(Correlation Coefficient) r =	0.3410691
6	Respondent 5	1	3	3	1	9							=((M2*J2)-(H2*I2))/SQRT(((M2*K2)-(H2^2))*((M2*L2)-(I2^2)))
7	Respondent 6	2	1	2	4	1						df =	73
8	Respondent 7	4	2	8	16	4							=M2-2
9	Respondent 8	2	1	2	4	1						t =	3.0999758
10	Respondent 9	5	1	5	25	1							=M5/SQRT((1-M5^2)/(M7))
11	Respondent 10	3	1	3	9	1						1 tailed p = P(T > t)	0.0013746
12	Respondent 11	3	3	9	9	9							=1-T.DIST(ABS(M9),M7,TRUE)
13	Respondent 12	0	2	0	0	4						2 tailed p = 2×P(T > t)	0.0027492
14	Respondent 13	3	2	6	9	4							=2*M11
15	Respondent 14	2	3	6	4	9							<
16	Respondent 15	2	1	2	4	1			0.1	0.05	0.025	0.01	**0.005**
17	Respondent 16	4	2	8	16	4			0.2	0.1	0.05	0.02	**0.01**
18	Respondent 17	2	1	2	4	1							
19	Respondent 18	3	1	3	9	1		*r*	0.1497	0.1914	0.2272	0.2682	**0.2957**
20	Respondent 19	2	1	2	4	1							
21	Respondent 20	4	3	12	16	9		*t*	1.293	1.666	1.993	2.379	**2.645**
22	Respondent 21	1	1	1	1	1							
23	Respondent 22	2	2	4	4	4					=AVERAGE(B:B)	=STDEV.S(B:B)	
24	Respondent 23	3	4	12	9	16			Data for Table 2		Average		
25	Respondent 24	4	0	0	16	0			Knowledge Sharing		Response	SD	
26	Respondent 25	2	2	4	4	4			Overall		2.51	1.17	
27	Respondent 26	4	3	12	16	9			*Business Office Staff*		2.38	1.56	
28	Respondent 27	3	3	9	9	9			*Administrative Faculty*		2.64	1.19	
29	Respondent 28	0	0	0	0	0			*Academic Department Staff*		2.56	0.73	
30	Respondent 29	3	1	3	9	1			*Dean's Office Staff*		2.44	1.01	
31	Respondent 30	3	2	6	9	4			*Provost's Office Staff*		2.25	0.50	
32	Respondent 31	3	3	9	9	9							
33	Respondent 32	4	2	8	16	4					=AVERAGE(C:C)	=STDEV.S(C:C)	
34	Respondent 33	3	2	6	9	4			Data for Table 3		Average		
35	Respondent 34	2	2	4	4	4			Presence of Conflict		Response	SD	
36	Respondent 35	2	1	2	4	1			Overall		1.71	1.02	
37	Respondent 36	2	1	2	4	1			*Administrative Faculty*		1.96	1.17	
38	Respondent 37	0	0	0	0	0			*Business Office Staff*		1.48	1.17	
39	Respondent 38	5	0	0	25	0			*Dean's Office Staff*		1.78	0.67	
40	Respondent 39	4	2	8	16	4			*Academic Department Staff*		1.69	0.79	
41	Respondent 40	2	2	4	4	4			*Provost's Office Staff*		1.25	0.50	
42	Respondent 41	3	1	3	9	1							
43	Respondent 42	0	0	0	0	0							
44	Respondent 43	4	4	16	16	16							
45	Respondent 44	3	1	3	9	1							
46	Respondent 45	0	1	0	0	1							
47	Respondent 46	0	0	0	0	0							
48	Respondent 47	4	3	12	16	9							
49	Respondent 48	2	2	4	4	4							
50	Respondent 49	3	1	3	9	1							
51	Respondent 50	2	1	2	4	1							
52	Respondent 51	1	2	2	1	4							

Scores comparing levels of knowledge sharing
vs. levels of percieved conflict

Purchasing Process

	A	B	C	D	E	F	G	H	I	J	K	L	M
53	Respondent 52	2	2	4	4	4							
54	Respondent 53	4	2	8	16	4							
55	Respondent 54	2	2	4	4	4							
56	Respondent 55	2	1	2	4	1							
57	Respondent 56	3	1	3	9	1							
58	Respondent 57	3	2	6	9	4							
59	Respondent 58	3	1	3	9	1							
60	Respondent 59	2	2	4	4	4							
61	Respondent 60	1	2	2	1	4							
62	Respondent 61	4	2	8	16	4							
63	Respondent 62	3	4	12	9	16							
64	Respondent 63	2	2	4	4	4							
65	Respondent 64	2	1	2	4	1							
66	Respondent 65	3	1	3	9	1							
67	Respondent 66	2	1	2	4	1							
68	Respondent 67	3	2	6	9	4							
69	Respondent 68	3	2	6	9	4							
70	Respondent 69	3	1	3	9	1							
71	Respondent 70	2	2	4	4	4							
72	Respondent 71	2	1	2	4	1							
73	Respondent 72	3	1	3	9	1							
74	Respondent 73	2	1	2	4	1							
75	Respondent 74	2	2	4	4	4							
76	Respondent 75	2	1	2	4	1							
77			*For (xy) use =B2*C2; =B3*C3; etc.*										
78			*For (x^2) use =B2^2; =B3^2; etc.*										
79			*For (y^2) use =C2^2; =C3^2; etc.*										

Relevant Subset 1

Business and Finance Staff correlate Knowledge Sharing and Conflict in the Budget Amendment Process

Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)
Respondent 26	4	2	8	16	4
Respondent 27	3	4	12	9	16
Respondent 28	3	2	6	9	4
Respondent 29	3	1	3	9	1
Respondent 30	3	2	6	9	4
Respondent 31	4	3	12	16	9
Respondent 32	4	3	12	16	9
Respondent 33	3	2	6	9	4
Respondent 34	2	2	4	4	4
Respondent 35	3	1	3	9	1
Respondent 36	2	1	2	4	1
Respondent 37	2	2	4	4	4
Respondent 38	4	1	4	16	1
Respondent 39	4	2	8	16	4
Respondent 40	2	2	4	4	4
Respondent 41	3	1	3	9	1
Respondent 42	3	0	0	9	0
Respondent 43	4	3	12	16	9
Respondent 44	3	1	3	9	1
Respondent 45	2	1	2	4	1
Respondent 46	2	0	0	4	0

Σx	Σy	Σxy	Σx2	Σy2	N
63	36	114	201	82	21

(Correlation Coefficient) r = 0.384561

df = 19

t = 1.815908

1 tailed p = P(T > t) 0.0426

2 tailed p = 2×P(T > t) 0.085199

		<			
	0.1	**0.05**	**0.025**	0.01	0.005
	0.2	**0.1**	**0.05**	0.02	0.01
r	0.2914	**0.3687**	**0.4329**	0.5034	0.5487
t	1.328	**1.729**	**2.093**	2.539	2.861

Relevant Subset 2

Business and Finance Staff strongly correlate Knowledge Sharing and Conflict in the Purchasing Process

Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)
Respondent 26	4	3	12	16	9
Respondent 27	3	3	9	9	9
Respondent 28	0	0	0	0	0
Respondent 29	3	1	3	9	1
Respondent 30	3	2	6	9	4
Respondent 31	3	3	9	9	9
Respondent 32	4	2	8	16	4
Respondent 33	3	2	6	9	4
Respondent 34	2	2	4	4	4
Respondent 35	2	1	2	4	1
Respondent 36	2	1	2	4	1
Respondent 37	0	0	0	0	0
Respondent 38	5	0	0	25	0
Respondent 39	4	2	8	16	4
Respondent 40	2	2	4	4	4
Respondent 41	3	1	3	9	1
Respondent 42	0	0	0	0	0
Respondent 43	4	4	16	16	16
Respondent 44	3	1	3	9	1
Respondent 45	0	1	0	0	1
Respondent 46	0	0	0	0	0

Σx	Σy	Σxy	Σx2	Σy2	N
50	31	95	168	73	21

(Correlation Coefficient) r = 0.580317

df = 19

t = 3.106058

1 tailed p = P(T > t) 0.002908

2 tailed p = 2×P(T > t) 0.005816

<

	0.1	0.05	0.025	0.01	**0.005**
	0.2	0.1	0.05	0.02	**0.01**
r	0.2914	0.3687	0.4329	0.5034	**0.5487**
t	1.328	1.729	2.093	2.539	**2.861**

Relevant Subset 3

Business and Finance Staff correlate Knowledge Sharing and Conflict in all three processes

Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)
Respondent 26	11	6	66	121	36
Respondent 27	8	10	80	64	100
Respondent 28	6	4	24	36	16
Respondent 29	10	3	30	100	9
Respondent 30	9	7	63	81	49
Respondent 31	11	7	77	121	49
Respondent 32	12	7	84	144	49
Respondent 33	9	6	54	81	36
Respondent 34	7	6	42	49	36
Respondent 35	8	3	24	64	9
Respondent 36	6	3	18	36	9
Respondent 37	4	5	20	16	25
Respondent 38	12	3	36	144	9
Respondent 39	12	7	84	144	49
Respondent 40	6	6	36	36	36
Respondent 41	9	3	27	81	9
Respondent 42	6	0	0	36	0
Respondent 43	12	11	132	144	121
Respondent 44	9	3	27	81	9
Respondent 45	5	3	15	25	9
Respondent 46	4	3	12	16	9

Σx	Σy	Σxy	Σx2	Σy2	N
176	106	951	1620	674	21

(Correlation Coefficient) r = 0.441226

df = 19

t = 2.143154

1 tailed p = P(T > t) 0.02263

2 tailed p = 2×P(T > t) 0.045259

			<		
	0.1	0.05	**0.025**	**0.01**	0.005
	0.2	0.1	**0.05**	**0.02**	0.01
r	0.2914	0.3687	**0.4329**	**0.5034**	0.5487
t	1.328	1.729	**2.093**	**2.539**	2.861

Relevant Subset 4

Academic Staff and Faculty correlate Knowledge Sharing and Conflict in the Hiring Process

Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)
Respondent 1	5	3	15	25	9
Respondent 2	4	5	20	16	25
Respondent 3	4	2	8	16	4
Respondent 4	3	2	6	9	4
Respondent 5	1	3	3	1	9
Respondent 6	3	2	6	9	4
Respondent 7	2	3	6	4	9
Respondent 8	2	3	6	4	9
Respondent 9	3	2	6	9	4
Respondent 10	1	2	2	1	4
Respondent 11	2	4	8	4	16
Respondent 12	3	2	6	9	4
Respondent 13	2	2	4	4	4
Respondent 14	5	3	15	25	9
Respondent 15	3	2	6	9	4
Respondent 16	3	2	6	9	4
Respondent 17	2	2	4	4	4
Respondent 18	2	1	2	4	1
Respondent 19	2	1	2	4	1
Respondent 20	4	2	8	16	4
Respondent 21	1	1	1	1	1
Respondent 22	2	2	4	4	4

Σx	Σy	Σxy	Σx2	Σy2	N
141	95	258	419	211	54

(Correlation Coefficient) r = 0.210582

df = 52

t = 1.553358

1 tailed p = P(T > t) 0.063202

2 tailed p = 2×P(T > t) 0.126403

	<				
	0.1	**0.05**	0.025	0.01	0.005
	0.2	**0.1**	0.05	0.02	0.01
r	**0.1772**	**0.2262**	0.2681	0.3158	0.3477
t	**1.298**	**1.675**	2.007	2.4	2.674

Respondent 23	2	2	4	4	4
Respondent 24	3	0	0	9	0
Respondent 25	2	1	2	4	1
Respondent 47	3	3	9	9	9
Respondent 48	4	1	4	16	1
Respondent 49	2	1	2	4	1
Respondent 50	3	1	3	9	1
Respondent 51	1	1	1	1	1
Respondent 52	2	2	4	4	4
Respondent 53	2	1	2	4	1
Respondent 54	2	2	4	4	4
Respondent 55	2	1	2	4	1
Respondent 56	4	1	4	16	1
Respondent 57	3	2	6	9	4
Respondent 58	4	1	4	16	1
Respondent 59	3	2	6	9	4
Respondent 60	3	2	6	9	4
Respondent 61	3	1	3	9	1
Respondent 62	4	3	12	16	9
Respondent 63	2	1	2	4	1
Respondent 64	2	1	2	4	1
Respondent 65	3	1	3	9	1
Respondent 66	2	2	4	4	4
Respondent 67	4	1	4	16	1
Respondent 68	2	2	4	4	4
Respondent 69	3	1	3	9	1
Respondent 70	2	1	2	4	1
Respondent 71	2	1	2	4	1
Respondent 72	3	1	3	9	1
Respondent 73	1	1	1	1	1
Respondent 74	2	2	4	4	4
Respondent 75	2	1	2	4	1

Relevant Subset 5

6 respondents who included negative qualitative comments, and registered presence of conflict, strongly correlated Knowledge Sharing and Conflict in the Hiring Process

Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)
Respondent 4	3	2	6	9	4
Respondent 6	3	2	6	9	4
Respondent 14	5	3	15	25	9
Respondent 20	4	2	8	16	4
Respondent 23	2	2	4	4	4
Respondent 28	3	2	6	9	4

Σx	Σy	Σxy	Σx2	Σy2	N
20	13	45	72	29	6

(Correlation Coefficient) r =	0.790569
df =	4
t =	2.581989
1 tailed p = P(T > t)	0.030599
2 tailed p = 2×P(T > t)	0.061199

	<			
0.1	**0.05**	**0.025**	0.01	0.005
0.2	**0.1**	**0.05**	0.02	0.01
r 0.6084	**0.7293**	**0.8114**	0.8822	0.9172
t 1.533	**2.132**	**2.776**	3.747	4.604

Relevant Subset 6

6 respondents who included negative qualitative comments, and registered presence of conflict, strongly correlated Knowledge Sharing and Conflict in the Purchasing Process

Respondent	Knowledge Sharing	Presence of Conflict	(xy)	(x^2)	(y^2)
Respondent 4	2	3	6	4	9
Respondent 6	2	1	2	4	1
Respondent 14	2	3	6	4	9
Respondent 20	4	3	12	16	9
Respondent 23	3	4	12	9	16
Respondent 28	0	0	0	0	0

Σx	Σy	Σxy	Σx2	Σy2	N
13	14	38	37	44	6

(Correlation Coefficient) r =	0.766241
df =	4
t =	2.384989
1 tailed p = P(T > t)	0.037789
2 tailed p = 2×P(T > t)	0.075578

		<			
	0.1	**0.05**	**0.025**	0.01	0.005
	0.2	**0.1**	**0.05**	0.02	0.01
r	0.6084	**0.7293**	**0.8114**	0.8822	0.9172
t	1.533	**2.132**	**2.776**	3.747	4.604

Critical Values for r

r	0.1	0.05	0.025	0.01	0.005
(df)	0.2	0.1	0.05	0.02	0.01
1	0.9511	0.9877	0.9969	0.9995	0.9999
2	0.8	0.9	0.95	0.98	0.99
3	0.687	0.8054	0.8783	0.9343	0.9587
4	0.6084	0.7293	0.8114	0.8822	0.9172
5	0.5509	0.6694	0.7545	0.8329	0.8745
6	0.5067	0.6215	0.7067	0.7887	0.8343
7	0.4716	0.5822	0.6664	0.7498	0.7977
8	0.4428	0.5494	0.6319	0.7155	0.7646
9	0.4187	0.5214	0.6021	0.6851	0.7348
10	0.3981	0.4973	0.576	0.6581	0.7079
11	0.3802	0.4762	0.5529	0.6339	0.6835
12	0.3646	0.4575	0.5324	0.612	0.6614
13	0.3507	0.4409	0.514	0.5923	0.6411
14	0.3383	0.4259	0.4973	0.5742	0.6226
15	0.3271	0.4124	0.4821	0.5577	0.6055
16	0.317	0.4	0.4683	0.5425	0.5897
17	0.3077	0.3887	0.4555	0.5285	0.5751
18	0.2992	0.3783	0.4438	0.5155	0.5614
19	0.2914	0.3687	0.4329	0.5034	0.5487
20	0.2841	0.3598	0.4227	0.4921	0.5368
21	0.2774	0.3515	0.4132	0.4815	0.5256
22	0.2711	0.3438	0.4044	0.4716	0.5151
23	0.2653	0.3365	0.3961	0.4622	0.5052
24	0.2598	0.3297	0.3882	0.4534	0.4958
25	0.2546	0.3233	0.3809	0.4451	0.4869
26	0.2497	0.3172	0.3739	0.4372	0.4785
27	0.2451	0.3115	0.3673	0.4297	0.4705
28	0.2407	0.3061	0.361	0.4226	0.4629
29	0.2366	0.3009	0.355	0.4158	0.4556
30	0.2327	0.296	0.3494	0.4093	0.4487
31	0.2289	0.2913	0.344	0.4032	0.4421
32	0.2254	0.2869	0.3388	0.3972	0.4357
33	0.222	0.2826	0.3338	0.3916	0.4296
34	0.2187	0.2785	0.3291	0.3862	0.4238
35	0.2156	0.2746	0.3246	0.381	0.4182
36	0.2126	0.2709	0.3202	0.376	0.4128
37	0.2097	0.2673	0.316	0.3712	0.4076
38	0.207	0.2638	0.312	0.3665	0.4026
39	0.2043	0.2605	0.3081	0.3621	0.3978
40	0.2018	0.2573	0.3044	0.3578	0.3932
41	0.1993	0.2542	0.3008	0.3536	0.3887
42	0.197	0.2512	0.2973	0.3496	0.3843
43	0.1947	0.2483	0.294	0.3457	0.3801
44	0.1925	0.2455	0.2907	0.342	0.3761
45	0.1903	0.2429	0.2876	0.3384	0.3721
46	0.1883	0.2403	0.2845	0.3348	0.3683
47	0.1863	0.2377	0.2816	0.3314	0.3646
48	0.1843	0.2353	0.2787	0.3281	0.361
49	0.1825	0.2329	0.2759	0.3249	0.3575

Critical Values for t

t	0.1	0.05	0.025	0.01	0.005
(df)	0.2	0.1	0.05	0.02	0.01
1	3.078	6.314	12.706	31.821	63.657
2	1.886	2.92	4.303	6.965	9.925
3	1.638	2.353	3.182	4.541	5.841
4	1.533	2.132	2.776	3.747	4.604
5	1.476	2.015	2.571	3.365	4.032
6	1.44	1.943	2.447	3.143	3.707
7	1.415	1.895	2.365	2.998	3.499
8	1.397	1.86	2.306	2.896	3.355
9	1.383	1.833	2.262	2.821	3.25
10	1.372	1.812	2.228	2.764	3.169
11	1.363	1.796	2.201	2.718	3.106
12	1.356	1.782	2.179	2.681	3.055
13	1.35	1.771	2.16	2.65	3.012
14	1.345	1.761	2.145	2.624	2.977
15	1.341	1.753	2.131	2.602	2.947
16	1.337	1.746	2.12	2.583	2.921
17	1.333	1.74	2.11	2.567	2.898
18	1.33	1.734	2.101	2.552	2.878
19	1.328	1.729	2.093	2.539	2.861
20	1.325	1.725	2.086	2.528	2.845
21	1.323	1.721	2.08	2.518	2.831
22	1.321	1.717	2.074	2.508	2.819
23	1.319	1.714	2.069	2.5	2.807
24	1.318	1.711	2.064	2.492	2.797
25	1.316	1.708	2.06	2.485	2.787
26	1.315	1.706	2.056	2.479	2.779
27	1.314	1.703	2.052	2.473	2.771
28	1.313	1.701	2.048	2.467	2.763
29	1.311	1.699	2.045	2.462	2.756
30	1.31	1.697	2.042	2.457	2.75
31	1.309	1.696	2.04	2.453	2.744
32	1.309	1.694	2.037	2.449	2.738
33	1.308	1.692	2.035	2.445	2.733
34	1.307	1.691	2.032	2.441	2.728
35	1.306	1.69	2.03	2.438	2.724
36	1.306	1.688	2.028	2.434	2.719
37	1.305	1.687	2.026	2.431	2.715
38	1.304	1.686	2.024	2.429	2.712
39	1.304	1.685	2.023	2.426	2.708
40	1.303	1.684	2.021	2.423	2.704
41	1.303	1.683	2.02	2.421	2.701
42	1.302	1.682	2.018	2.418	2.698
43	1.302	1.681	2.017	2.416	2.695
44	1.301	1.68	2.015	2.414	2.692
45	1.301	1.679	2.014	2.412	2.69
46	1.3	1.679	2.013	2.41	2.687
47	1.3	1.678	2.012	2.408	2.685
48	1.299	1.677	2.011	2.407	2.682
49	1.299	1.677	2.01	2.405	2.68

Critical Values for r

50	0.1806	0.2306	0.2732	0.3218	0.3542
51	0.1789	0.2284	0.2706	0.3188	0.3509
52	0.1772	0.2262	0.2681	0.3158	0.3477
53	0.1755	0.2241	0.2656	0.3129	0.3445
54	0.1739	0.2221	0.2632	0.3102	0.3415
55	0.1723	0.2201	0.2609	0.3074	0.3385
56	0.1708	0.2181	0.2586	0.3048	0.3357
57	0.1693	0.2162	0.2564	0.3022	0.3328
58	0.1678	0.2144	0.2542	0.2997	0.3301
59	0.1664	0.2126	0.2521	0.2972	0.3274
60	0.165	0.2108	0.25	0.2948	0.3248
61	0.1636	0.2091	0.248	0.2925	0.3223
62	0.1623	0.2075	0.2461	0.2902	0.3198
63	0.161	0.2058	0.2441	0.288	0.3173
64	0.1598	0.2042	0.2423	0.2858	0.315
65	0.1586	0.2027	0.2404	0.2837	0.3126
66	0.1574	0.2012	0.2387	0.2816	0.3104
67	0.1562	0.1997	0.2369	0.2796	0.3081
68	0.155	0.1982	0.2352	0.2776	0.306
69	0.1539	0.1968	0.2335	0.2756	0.3038
70	0.1528	0.1954	0.2319	0.2737	0.3017
71	0.1517	0.194	0.2303	0.2718	0.2997
72	0.1507	0.1927	0.2287	0.27	0.2977
73	0.1497	0.1914	0.2272	0.2682	0.2957
74	0.1486	0.1901	0.2257	0.2664	0.2938
75	0.1477	0.1888	0.2242	0.2647	0.2919
76	0.1467	0.1876	0.2227	0.263	0.29
77	0.1457	0.1864	0.2213	0.2613	0.2882
78	0.1448	0.1852	0.2199	0.2597	0.2864
79	0.1439	0.1841	0.2185	0.2581	0.2847
80	0.143	0.1829	0.2172	0.2565	0.283
81	0.1421	0.1818	0.2159	0.255	0.2813
82	0.1412	0.1807	0.2146	0.2535	0.2796
83	0.1404	0.1796	0.2133	0.252	0.278
84	0.1396	0.1786	0.212	0.2505	0.2764
85	0.1387	0.1775	0.2108	0.2491	0.2748
86	0.1379	0.1765	0.2096	0.2477	0.2732
87	0.1371	0.1755	0.2084	0.2463	0.2717
88	0.1364	0.1745	0.2072	0.2449	0.2702
89	0.1356	0.1735	0.2061	0.2435	0.2687
90	0.1348	0.1726	0.205	0.2422	0.2673
91	0.1341	0.1716	0.2039	0.2409	0.2659
92	0.1334	0.1707	0.2028	0.2396	0.2645
93	0.1327	0.1698	0.2017	0.2384	0.2631
94	0.132	0.1689	0.2006	0.2371	0.2617
95	0.1313	0.168	0.1996	0.2359	0.2604
96	0.1306	0.1671	0.1986	0.2347	0.2591
97	0.1299	0.1663	0.1975	0.2335	0.2578
98	0.1292	0.1654	0.1966	0.2324	0.2565
99	0.1286	0.1646	0.1956	0.2312	0.2552
100	0.1279	0.1638	0.1946	0.2301	0.254

Critical Values for t

50	1.299	1.676	2.009	2.403	2.678
51	1.298	1.675	2.008	2.402	2.676
52	1.298	1.675	2.007	2.4	2.674
53	1.298	1.674	2.006	2.399	2.672
54	1.297	1.674	2.005	2.397	2.67
55	1.297	1.673	2.004	2.396	2.668
56	1.297	1.673	2.003	2.395	2.667
57	1.297	1.672	2.002	2.394	2.665
58	1.296	1.672	2.002	2.392	2.663
59	1.296	1.671	2.001	2.391	2.662
60	1.296	1.671	2	2.39	2.66
61	1.296	1.67	2	2.389	2.659
62	1.295	1.67	1.999	2.388	2.657
63	1.295	1.669	1.998	2.387	2.656
64	1.295	1.669	1.998	2.386	2.655
65	1.295	1.669	1.997	2.385	2.654
66	1.295	1.668	1.997	2.384	2.652
67	1.294	1.668	1.996	2.383	2.651
68	1.294	1.668	1.995	2.382	2.65
69	1.294	1.667	1.995	2.382	2.649
70	1.294	1.667	1.994	2.381	2.648
71	1.294	1.667	1.994	2.38	2.647
72	1.293	1.666	1.993	2.379	2.646
73	1.293	1.666	1.993	2.379	2.645
74	1.293	1.666	1.993	2.378	2.644
75	1.293	1.665	1.992	2.377	2.643
76	1.293	1.665	1.992	2.376	2.642
77	1.293	1.665	1.991	2.376	2.641
78	1.292	1.665	1.991	2.375	2.64
79	1.292	1.664	1.99	2.374	2.64
80	1.292	1.664	1.99	2.374	2.639
81	1.292	1.664	1.99	2.373	2.638
82	1.292	1.664	1.989	2.373	2.637
83	1.292	1.663	1.989	2.372	2.636
84	1.292	1.663	1.989	2.372	2.636
85	1.292	1.663	1.988	2.371	2.635
86	1.291	1.663	1.988	2.37	2.634
87	1.291	1.663	1.988	2.37	2.634
88	1.291	1.662	1.987	2.369	2.633
89	1.291	1.662	1.987	2.369	2.632
90	1.291	1.662	1.987	2.368	2.632
91	1.291	1.662	1.986	2.368	2.631
92	1.291	1.662	1.986	2.368	2.63
93	1.291	1.661	1.986	2.367	2.63
94	1.291	1.661	1.986	2.367	2.629
95	1.291	1.661	1.985	2.366	2.629
96	1.29	1.661	1.985	2.366	2.628
97	1.29	1.661	1.985	2.365	2.627
98	1.29	1.661	1.984	2.365	2.627
99	1.29	1.66	1.984	2.365	2.626
100	1.29	1.66	1.984	2.364	2.626

APPENDIX D

Institutional Review Board Curriculum Completion Report

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)

COURSEWORK REQUIREMENTS REPORT*

* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- Name: Harry Nelson (ID: 5013992)
- Email: hnelson@westga.edu
- Institution Affiliation: Valdosta State University (ID: 475)
- Institution Unit: COAH Dean's Office
- Phone: 678-839-4903

- Curriculum Group: Human Research
- Course Learner Group: IRB Basic
- Stage: Stage 1 - Basic Course
- Description: This course is suitable for investigators and staff conducting SOCIAL / HUMANISTIC / BEHAVIORAL RESEARCH with human subjects. The VA module must be completed if you plan to work with subjects at a VA facility.

- Report ID: 17077745
- Completion Date: 09/12/2015
- Expiration Date: 09/10/2020
- Minimum Passing: 80
- Reported Score*: 91

REQUIRED AND ELECTIVE MODULES ONLY	DATE COMPLETED	SCORE
History and Ethical Principles - SBE (ID: 490)	09/11/15	4/5 (80%)
Defining Research with Human Subjects - SBE (ID: 491)	09/11/15	4/5 (80%)
The Federal Regulations - SBE (ID: 502)	09/11/15	5/5 (100%)
Basic Institutional Review Board (IRB) Regulations and Review Process (ID: 2)	09/12/15	5/5 (100%)
Assessing Risk - SBE (ID: 503)	09/12/15	5/5 (100%)
Informed Consent - SBE (ID: 504)	09/12/15	5/5 (100%)
Privacy and Confidentiality - SBE (ID: 505)	09/12/15	4/5 (80%)
Valdosta State University (ID: 746)	09/12/15	No Quiz

For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

CITI Program
Email: citisupport@miami.edu
Phone: 305-243-7970
Web: https://www.citiprogram.org

APPENDIX E

Institutional Review Board Exemption

Institutional Review Board (IRB)
For the Protection of Human Research Participants
PROTOCOL EXEMPTION REPORT

PROTOCOL NUMBER:	**03511-2017**	**INVESTIGATOR:**	**Mr. Harry Nelson**
		SUPERVISING FACULTY:	**Dr. Gerald Merwin**
PROJECT TITLE:	***An Analysis of the Communication of Organizational Knowledge along Work Flows at the University of West Georgia.***		

INSTITUTIONAL REVIEW BOARD DETERMINATION:

This research protocol is **Exempt** from Institutional Review Board (IRB) oversight under **Categories 2/5.** You may begin your research study immediately **(09.15.2017).** If the nature of the research study changes such that exemption criteria may no longer apply, please consult with the IRB Administrator (irb@valdosta.edu) before instituting any changes.

ADDITIONAL COMMENTS:

- *Please be reminded that VSU approved student researchers are required to use their VSU email address for all research related communication.*
- *The Research (consent) statement must be read aloud to each participant at the start of an interview.*
- *Upon completion of your research study, compiled data (including – email addresses, data lists, payment log, etc.) must be securely maintained (locked file cabinet, password protected computer, etc.) for a minimum of 3 years.*
- *Participant payment log is subject to audit – therefore, must be kept current. Participants must sign upon receipt of gift card.*

☒ ***If this box is checked, please submit any documents you revise to the IRB Administrator at irb@valdosta.edu to ensure an updated record of your exemption.***

Elizabeth W. Olphie *09/15/2017*
Elizabeth W. Olphie, IRB Administrator Date

Thank you for submitting an IRB application.
Please direct questions to irb@valdosta.edu or 229-259-5045.

Revised: 06.02.16

APPENDIX F

CERTIFICATION STATEMENT

I hereby certify that this paper constitutes my own work product, where the language of others is set forth, quotation marks so indicate, and/or that appropriate credit is given where I have used the language, ideas, expressions or writing of another.

Signed: