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Factors Affecting the Adoption of New Technology: the case of 311 Government Call Centers

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FACTORS AFFECTING THE ADOPTION OF NEW TECHNOLOGY: THE CASE OF 311 GOVERNMENT CALL CENTERS

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by

Susan Caroline Young

2015

To: Dean Michael R. Heithaus
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This dissertation, written by Susan Caroline Young, and entitled Factors Affecting the Adoption of New Technology: The Case of 311 Government Call Centers, having been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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DEDICATION

This dissertation is dedicated to my husband Vinod Sean Gulcharan whose unconditional love and support has made it possible for me to pursue this degree. To my mother Etheline Young who has always and continues to be an inspiration to me. To my daughters, Leilani and Kaelyn, for your love and understanding during this process. And to the memory of my father, Winston Young.

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ABSTRACT OF THE DISSERTATION

FACTORS AFFECTING THE ADOPTION OF NEW TECHNOLOGY:

THE CASE OF 311 GOVERNMENT CALL CENTERS

by

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Government call centers (311) were first created to reduce the volume of non-emergency calls that were being placed to emergency 911 call centers. The number of 311 call centers increased from 57 in 2008 to about 300 in 2013. Considering that there are over 2,700 municipal government units across the United States, the adoption rate of the 311 centers is arguably low in the country. This dissertation is an examination of the adoption of 311 call centers by municipal governments. My focus is specifically on why municipal governments adopt 311 and identifying which barriers result in the non-adoption of 311 call centers. This dissertation is possibly the first study to examine the adoption of 311 call centers in the United States.

The dissertation study has identified several significant factors in the adoption and non-adoption of 311 government call centers. The following factors were significant in the adoption of 311 government call centers: managerial support, financial constraints, organizational responsiveness, strategic plan placement, and technology champion. The following factors were significant barriers that resulted in the non-adoption of a 311

government call center; no demand from citizens, start up costs, annual operating costs, unavailability of funding, and no obvious need for one.

If local government entities that do not have a 311 government call center decide to adopt one, this study will help them identify the conditions that need to be in place for successful adoption to occur. Local government officials would first need to address the barriers in setting up the 311 call centers.

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ABBREVIATIONS AND ACRONYMS

ASPA	American Society of Public Administrators
CAR	Content and Agency Relations
CIO	Chief Information Officer
COPS	Community Oriented Policing Services
CRM	Customer Relationship Manager
DoITT	Department of Information Technology and Telecommunications
FCC	Federal Communications Commission
GDP	Gross Domestic Product
GSC	Government Service Center
ICMA	International City/County Management Association
MSA	Metropolitan Statistical Area
NIS	National Innovation Systems
NPM	New Public Management
OECD	Organization for Economic Co-operation and Development
PCA	Principal Component Analysis
PSAP	Public Safety Answering Points
SLA	Service Level Agreement
UN	United Nations

Chapter 1. 311 Government Call Centers: Research Agenda

Introduction

"One Call to City Hall" government call centers (311) have emerged across the United States and Canada, especially in major cities such as New York City, Chicago, Los Angeles, Toronto and Vancouver. With the use of Customer Service Management software (CRM) and one easy to remember three digit telephone number (311), citizens have easy and quick access to government services. Consequently, 311 government call centers have become an innovative way for local governments to provide efficient and effective services to their citizens.

Government call centers (311) work by accepting non-emergency calls from citizens to one central number, which is usually 311 (but could be other numbers too). Calls to such centers fall into either of two categories: a call for information or a call to request local government services. If the call is one for information then the operator can access an extensive knowledge-based data base to answer the query. If the call is one for local government services then the call center operator enters the request into the CRM system which routes the request to the appropriate city/county department for handling. The citizen is usually given a tracking number to track the completion of the service request.

Local governments of all sizes have examined how adopting a 311 call center can allow them to deliver services more efficiently and effectively to their citizens. A major advantage of adopting a 311 government call center is providing easy access of government services to citizens. Another benefit is the ability of local governments to

track and measure the delivery of services. Governments can track the delivery of services in real time and make adjustments when necessary in the allocation and availability of resources. Through this innovative approach local governments are able to adopt a more citizen-centered approach to service delivery.

Traditionally, citizens would have had to contact a department directly in order to request services. In many cases, this meant that the citizens would have to wade through hundreds of numbers in the local phone book to find the right number. If the citizens found a number to call, many times they would have to endure being transferred around to other persons until they found the right person to take their service request. The 311 government call centers accept and process service request for all departments and provide citizens with the means to track their service requests.

The 311 call center arguably represents an organizational innovation in the local governments to provide improved citizen oriented services. The first such call center originated in the city of Baltimore, Maryland, on October 2, 1996 (http://www.911 dispatch.com/3-1-1-systems). Since then, the call centers have spread across the United States, and have been adopted by nearly 300 municipalities. My dissertation is an examination of the adoption (or non-adoption) of this organizational innovation in local governments. It analyzes the factors for adoption of 311 call centers, and the barriers that could inhibit their adoption.

This introductory chapter provides an overview of the dissertation's scope. The next section gives the background context of the dissertation. The subsequent section describes the problem statement. Then, the purpose and significance of the study is

outlined. After this, the dissertation's research objective is discussed, followed by the methodology. The chapter concludes with the organization of the dissertation.

Background Context of the Study

The 311 government call centers emerged in the United States to reduce the volume of non-emergency calls to 911. Many jurisdictions in the country were dealing with the problem of the 911 system being overburdened by non-emergency calls. The non-emergency calls created a backlog that resulted in citizens calling for true emergencies to not connect in a reasonably quick time. In some cases, such as that of Orange County, Florida, the true emergency callers had to wait for several minutes for the call to be answered, whereas the 911 performance mandate required 90 percent of calls to be answered within 10 seconds (Holmes, 2007). Indeed, the problem had become so overwhelming that there was a national imperative in the late 1990s to reduce the volume of non-emergency calls to 911.

Consequently, the US Department of Justice began examining alternative methods for citizens to make non-emergency calls. The answer came in the form of establishing a new number (N11) that would be exclusively for non-emergency calls, thereby reducing the volume of non-emergency calls to 911. In August 1996, the US Department of Justice's Office of Community Oriented Policing Services (COPS) requested from the Federal Communications Commission (FCC) that the N11code 311, be reserved on a national basis for non-emergency police telephone calls nationwide. The Department of Justice also recommended that the number could be used for access to other government services at the discretion of each jurisdiction (Fleming, 2008). The FCC on February 18,

2007, after a comment period of one month from September 10, 2006 to October 10, 2006, made available to local government entities the use of 311 for non-emergency police calls and other government services (Fleming, 2008). There was no mandatory requirement for the local governments to implement the 311; they could adopt on a voluntary basis, dependent on the local conditions.

Community Oriented Policing Services (COPS) made grants available to several jurisdictions through its Non-Emergency Telecommunications Pilot Project to test the feasibility of having an alternative number to 911. The first recipients of grant money from this program were the cities of Dallas (Texas), Baltimore (Maryland), Phoenix (Arizona), and Buffalo (New York) (Holmes, 2007). With the exception of Phoenix, Arizona the other three jurisdictions implemented the 311 government call centers that are also active presently. The city of Baltimore was the first to implement the 311 non-emergency number in 1997. Immediately upon implementation, Baltimore witnessed a fifty percent reduction in the non-emergency call volume (Wade, 2001).

Although the first wave of 311 implementation in jurisdictions was about reducing non-emergency calls, the adoption of a 311 government call centers in the second wave has been more about providing easy access to government services for citizens. The 311 call centers became centralized agencies for citizens to reach local government departments. As noted previously the 311 number was made available not only for non-emergency purposes but also as an access point for citizens to access other government services. A 2008 study conducted by the International City/County Management Association, (ICMA) noted fifty-seven local jurisdictions that had adopted the 311 designation for their call centers in lieu of a traditional seven or ten digit number

(Fleming, 2008) (http://www.911dispatch.com/info/311map.html). Although the 311 system began in the city of Baltimore in 1996, this is still a fairly innovative idea thus suggesting that the rate of adoption is still fairly low.

Presently, most cities and counties that adopt the 311 designation do so to provide a single point access to local government information and services for citizens. When a city or county makes the decision to adopt a 311 centralized government call center, it is in essence making a commitment to change its approach to service delivery (ICMA, 2008). The 311 government call centers have the potential to fulfill many of the promises that proponents of traditional e-government have made in terms of citizen accessibility to government functions. A major challenge of e-government has been overcoming the digital divide, those with access and those without access to technological means. The digital divide is stark in terms of age, income, and education. As recently as 2011, seventy percent of seniors over the age of sixty-five from across the United States, did not have internet access at home. Fifty-nine percent of low income adults (those who make less than 30,000K a year) did not have internet access at home. Seventy-eight percent of adults with less than a high school diploma do not have internet access at home (Zickuhr and Smith, 2012). A greater proportion of the population has access to a telephone than they do to a computer with internet access. According to the Pew Research Internet Project Survey (2014), as of January 2014, from a sample of 1,006 adults, over ninety percent of the respondents have a cell phone. The telephone subscribership penetration rate was 95.7% in 2009 (FCC, 2010). Hence, more citizens could access government agencies via telephone than through other means.

Problem Statement

Electronic government began to make its appearance in the field of public administration around the late 1990s (Moon, 2002). Broadly, e-government is the use of all information and communication technologies, such as the telephone and internet, to allow for greater access to government services and information by citizens (Moon, 2002; and UN and ASPA 2001). Much of the e-government emphases has been on providing citizens access to government services via the internet. Indeed, over ninety percent of municipalities within the United States have a municipal website (Garson, 2006) that is accessible to citizens 24/7. The digital divide, however, poses a significant problem for citizens' accessibility to the government agencies. Providing access to government services online does not translate into equal and equitable services to the entire population (Garson, 2006). Phone service on the other hand is easily accessible to over ninety-percent of the population. Government subsidized phone programs also allow low-income groups to have access to phone service. Hence, by adopting and implementing 311 government call centers, local governments have the potential to provide efficient and effective access to service for the majority of the citizens.

Despite its advantages, the rate of adoption is still very low for 311 government call centers compared to other forms of technology services adopted by local governments, such as websites. As indicated before, only about 57 jurisdictions (out of over 3000 municipal governments) throughout the United States have adopted a 311 centralized government call center, whereas websites are ubiquitous. There is an imperative to understand rationale for why more municipal governments have not adopted 311 government call centers, in the light of the 311's advantage of increasing

government access across the society. As the 311 government call centers are new, having been in existence for about 15 years, very few empirical research has been conducted on the adoption of this innovation across municipal government units. The dissertation study aims to fill this gap in the literature on the adoption of 311 call centers.

Purpose and Significance of the Study

The main purpose of this study is to contribute to the body of public administration literature by examining the innovation adoption of 311 government call centers. The study is an in-depth examination of the reasons for adoption and non-adoption of 311 government call centers. The rationale for adoption and non-adoption are both important to understand in the diffusion of 311 innovation across municipal governments. Identifying the significant factors would contribute to the existing literature on the diffusion of innovation in the public sector.

Extant literature in public administration has focused on the adoption of information technology innovation within the public sector, but has not focused on the IT innovation based new organizational structures like 311 government call centers. There are a few professional handbooks that have been published on how to adopt and implement a 311 government call center but there is no scholarly research on the implementation of such systems. Present e-government research has also not paid attention to the rise of the 311 call centers. The present study aims to add to this limited body of scholarly literature within the field of public administration in general and e-government in particular.

The current study is important to the practice of public administration in that 311 government centralized call centers have the potential to transform the way local governments provide services to their citizens. When a city or county makes the decision to adopt a 311 centralized government call center, they are, in essence, making a commitment to changing their approach to service delivery (Fleming, 2008). The adoption and utilization of a 311 centralized government call center puts into practice some of the premises of New Public Management (NPM), which holds that if government treats citizens like customers then service efficiency and responsiveness will improve (Rosenbloom and Kravchuk, 2005).

The dissertation has enormous public policy implications for local governments who chose to adopt a 311 government call center. Data generated from 311 call centers allow for increased accountability of government to citizens. The citizens have the ability to track their requests for services from initiation to completion. The data generated from 311 call centers can thus provide local government with the information about how long it takes services to be completed once they are requested by citizens. Data generated from 311 centralized call centers can also be used to determine where the demand for specific services is most needed and help local governments better utilize their scarce resources. Successful adoption and implementation of 311 government call centers requires both horizontal and vertical collaboration and partnership among municipal agencies and departments and, in some cases a major organizational culture change that is more citizen-oriented (Fleming, 2008). If the organizational change were not to occur, a 311 call center could become another means of reinforcing the existing bureaucratic model and players of government (Fountain, 2001).

Research Objectives and Methodology

The main objective of this study is to identify the specific factors that contribute to the adoption or non-adoption of a 311 government call center by a municipal government. The first aim of this dissertation is to explore and analyze the adoption process of 311 centralized governments call centers within local government entities within the United States through exploratory research. The second aim of the dissertation is to determine what factors affect adoption and utilization of 311 centralized government call centers on the basis of the results of the exploratory research conducted during the qualitative portion of the research.

Methodologically, the present study is exploratory in nature and utilizes a mixed-method approach (Babbie, 2008) combining both qualitative and quantitative data analysis approaches. In the absence of extant research, the exploratory research method is being used to conceptualize the specific theories that contribute to the adoption of 311 government call centers. Theories such as Technology Acceptance Model (TAM) and Theory of Planned Behavior (TPB) help explain the adoption of information technology in existing organizations, but do not explain the emergence of new organizational structures such as the 311 government call centers. In this context, I use Rogers' (1995) diffusion of innovation theory extensively to frame the emergence and adoption of the 311 government call centers. Consistent with the dissertation's two aims, the study consists of two parts: the first part is an inductive analysis using qualitative methods to understand the deeper particular factors of 311 adoption, and the second part is a deductive analysis using quantitative methods for identifying the general factors of adoption.

The first part of this study is aimed to identify significant factors in the adoption of 311 call centers through in-depth case studies of selected centers, which are those located in the following five municipalities: New York City (New York), Orange County (Florida), Miami-Dade County (Florida), Columbia (South Carolina), and Denver (Colorado). For the case studies, I conducted in-person and phone interviews and document analysis. The interviews were with individuals who were involved in the adoption and implementation phase of the selected 311 government call centers. I identified the individuals through talks with the key persons working with the call centers, and then used the snow ball technique to find more individuals who had important role in establishing the call center. The interviews were important to "yield in-depth responses about people's experiences, perceptions, opinions, feelings and knowledge" (Patton, 2002, p. 4). The documents reviewed consisted of organizational records such as memoranda and correspondence, official publications, and reports. The data from the documents capture the contextual background (Patton, 2002).

The second part of the present study uses results from an online survey that was e-mailed to a random sample of cities and counties within the United States. The survey was conducted in two waves to obtain a suitable response rate. The survey questionnaire was developed on the basis of the information gleaned from the interviews and review of documents conducted in the first part of the study. Statistical analysis of the data from the survey (descriptive statistics and factor analysis) is used to determine and rank factors that are significant in the adoption process of 311 centralized call centers.

Organization of the Dissertation

This dissertation is organized in seven chapters. This first introduction chapter introduces the concept of 311 government call center, its implications as a new vehicle of service delivery of government services to citizens, and its significance to the study of public administration. The chapter gives the problem statement, including the purpose and significance of the study. A brief overview of the research objectives and methodology is also presented.

Chapter two presents the literature background to the study and in so doing provides a snap shot into the history and evolution of e-government in the domain of American public administration. It reviews different theoretical frameworks of technology adoption and innovation in the public sector and e-government. It also presents how the paradigm of New Public Management is relevant in the context of 311 government call centers.

Chapter three presents the research methodology of this study. It outlines the purpose of the study and the aims of the study. It presents both the qualitative and quantitative research methodologies used in the study in more detail. It identifies who the research participants were in the study for both approaches. It also discusses the reliability and validity concerns of the study.

Chapter four outlines the qualitative part of the research. It details the case studies of the government call centers in: New York, New York; Orange County, Florida; Miami-Dade County, Florida; Columbia, South Carolina; and Denver, Colorado. The case studies highlight the common themes that emerged in the process of adoption of 311 government call centers. Chapter five presents the quantitative part of the research used

in the study. The chapter gives an analysis of the surveys conducted with cities throughout the United States. The analysis identifies the key factors in the adoption and non-adoption of 311 government call centers. Chapter six discusses the findings and implications of the present research. The chapter summarizes the major themes that emerged in the adoption and non-adoption of the government call centers. Chapter seven concludes the dissertation with implications for future empirical research.

Chapter 2. Literature Review

Introduction

This chapter presents the literature review of extant studies on the adoption of information technology (IT) innovation in public organizations. The review provides a background context of the adoption of 311 government call centers in municipal governments in the United States. To provide the background, the chapter first outlines the major features of a 311 government call center. Then, the 311 government call centers are examined from an e-government perspective. After this, the relationship of the 311 government call centers to some of the theoretical tenets of public administration in general, and e-government in particular are highlighted. In this context, three key approaches that are key for framing the discussion of 311 government call centers' adoption are discussed. The first is the theory of New Public Management, which emphasizes citizen oriented governance. The second is the Digital Era Governance, which posits the nature of governance arrangements and citizen government interactions in the present context of the digital world. The third is the diffusion of innovation theory (Roger's classical innovation theory and further developments thereof) in the context of information technology innovation adoption within the public sector. The chapter concludes with a summary of the main aspects of the theoretical frameworks that are relevant to the 311 government call centers.

311 Government Call Centers

Government call centers (311) are an innovative way of delivering government services to citizens. The call centers are operated by local governments i.e., municipal

governments) either at the city or county level that citizens can call using an easy to remember three digit number (311) to request information or submit requests for government services. The first 311 government call center started in the city of Baltimore, Maryland in 1996. As of 2008 there were 57 confirmed 311 government call centers (Fleming, 2008). That count has increased since 2008, and is estimated to be close to three hundred presently (Newcombe, 2014). Adoption of this innovation has been arguably slow, considering that there are 2,702 local government units (1,559 cities and 1,243 counties) (U.S. Census, 2014). The present literature on information technology adoption in government has not dealt with the low level of 311 adoption across local governments. Garson (2006) argues that government traditionally lags behind the private sector in its use and adoption of technology innovation, which could partially explain the low level of 311 adoption. However, the specific rationale of why local governments have adopted or not adopted 311 requires close examination.

There are different models of the 311 government call center, and all of them rely very heavily on the use of information technology. According to Nam and Pardo (2014), one of the core components that should be present in all the 311 call centers is the Customer Relationship Management (CRM) software. The CRM software allows for the interaction between citizens and government to be tracked and for the management of data and information (Fleming, 2008; Reddick 2011; Nam and Pardo, 2014). A 311 government call center should have the capacity for service requests to be tracked internally by departments, as well as offer a way for citizens to monitor the progress of the requests. Most cities and counties provide citizens with a system generated tracking number whereby they can track the progress of their request either via telephone or

online. All telephone calls are handled by the 311 call centers, which act as one-stop service centers, rather than being handled by the individual departments. The call centers employ people trained in responding to the calls in an amicable way. The online requests are automatically routed through the 311 CRM system to the departments, thus potentially reducing the volume of actual calls being placed to the 311 call centers.

According to Fleming (2008), the following features should be present in a 311 government call center. First, there should be a clear method for citizens to contact the 311 government call center; this is usually in the form of an easy to remember three digit number (311). Many early incarnations of one-stop call centers used a ten digit phone number, but these centers have since converted the three digit number because it is easy to remember. The 311 centers should provide access for people with disabilities. Besides telephone access, provisions should be made for other channels of communication such as in-person visits, via computer, and via mobile phones. Many elderly citizens still desire in-person visits to the one-stop service centers to maintain a human touch when seeking services. With the growth of Internet and Web 2.0 methods, access via computer expands the one-stop services to the tech savvy population. In the last several years the use of mobile phones (especially, linked with the internet, i.e., smart phones) has grown significantly. Thus the 311 call centers have had to keep up with the information technology developments.

Another critical component of a 311 government call center is the ability to deliver more efficient and effective services to citizens through the use of service level agreements (SLA), which “commit a city department to respond to a service request within a specified time” (Fleming, 2008; Nam and Pardo, 2014). Service level

agreements demand a high level of collaboration between the staff of a 311 government call center and the staff of other local government departments. Nam and Pardo (2014) call such an agreement “shared services”, which is a form of government collaboration between departments. There has to be integration of the service departments into the centralized system. Centralization allows for the seamless movement of service requests from the centralized call center to the required department via electronic transmission. Without these service level agreements in place, and without the ability of the 311 government call center to accept service requests for other departments within the organization, the 311 call center would just be an information hotline. (Fleming, 2008). Finally, data from a 311 government call center should have reporting capabilities and use. The data generated by 311 government call centers should be accessible to administrators so that they can identify where resources are most needed. (Fleming, 2008).

A more recent development in the 311 is that of Open 311, which is “essentially an Open Application Programming Interface (API) that specifies a standard protocol for service requests in municipal governments” (Ganapati and Scutelnicu, 2014). Open 311 standardizes service request protocols across different municipal governments. Open 311 also shares the service request data captured by 311 call centers to external stakeholders such as software developers via the internet for the development of web applications that can be used in smart phones and other such portable devices (Scutelnicu and Ganapati, 2014). The advent of the Open 311 has resulted in the growth of third party vendors (such as SeeClickFix and Public Space) providing 311 services via internet to many

jurisdictions. With Open 311, citizens can use a single app to request services across different cities.

311 and E-government

Although there are different conceptions of e-government, it generally implies a reliance on information technology to facilitate government processes for citizens. According to Moon (2002), "e-government includes the use of all information and communication technologies, from fax machines to wireless palm pilots, to facilitate the daily administration of government" (Moon, 2002). Sprecher (2000) posits that "IT is used to simplify and improve transactions between governments and other actors." The American Society of Public Administration and the United Nations define e-government as "utilizing the Internet and the World Wide Web delivering government information and services to citizens" (Rosenbloom and Kravchuk, 2005). Another definition of e-government is "the electronic provision of information and services by governments twenty-four hours per day, seven days per week" (Norris, Fletcher, and Holden, 2001; Norris and Moon 2005).

The 311 government call centers rely very heavily on the use of information and communications technology. It can be argued that the 311 call center is a form of e-government. The 311 originated as a phone-based system for one-stop citizen oriented services. Many 311 government call centers also offer an online option for citizens to submit service requests via the internet. In general, 311 is an organizational innovation that facilitates new forms of citizen government interaction using the technology

advancements. New York City 311 is an example of a 311 government call center that is staffed twenty-four hours per day, seven days per week. Other 311 government call centers may not have the same capabilities to do so as New York City 311 but, as stated before, many do offer online access that could be interpreted as twenty-four hour access.

Weerakkody and Dhillon (Reddick, 2009) identify four stages of e-government as web presence, interaction, transaction and transformation. The web presence is the base level with a local government establishing a website (one-way information to citizens). The interaction stage allows for government-citizen communication (two way dialog with citizens). The transaction stage facilitates online methods of payment for services. The transformational stage of e-government is the highest level of e-government that governments can attain. In the transformational stage, different government agencies collaborate and partner with each other and undergo a radical organizational transformation in the delivery of services. During the transformational stage different agencies streamline their business processes and integrate fragmented systems. Government call centers (311) arguably represent this last stage of transformation. For a 311 government call center to be success it requires both horizontal and vertical collaboration among government departments. It connects the different departments within a municipal government in the form of a one-stop service center.

311 and New Public Management

As a citizen-oriented one-stop center, the 311 could be viewed from the perspective of New Public Management (NPM), which is a managerial approach towards public administration that began in the 1990s (Rosenbloom and Kravchuk, 2005). New

Public Management is “reform-oriented and seeks to improve public sector performance” (Rosenbloom and Kravchuk, 2005). Denhardt and Denhardt (2007) define New Public Management as “a cluster of contemporary ideas and practices that seek, at their core, to use private sector and business approaches in the public sector” (Denhardt and Denhardt, 2007). In the market analogy, the NPM approach is premised on giving citizens greater choices of service delivery options and governments being more responsive to citizen requests. The 311 government call centers are organizational manifestations within the municipal governments that meet these NPM tenets of being responsive to their citizens, to treat them as customers, and to offer more effective and efficient services.

There are two more ways by which the 311 government call centers can be viewed in the context of NPM. In the first approach Christopher Hood (Shafritz, Hyde, Parkes, 2004) ties the rise of NPM to four trends in public administration: 1) the attempts to slow down the growth of government; 2) the increased trend of privatizing and contracting out government services; 3) the development of automation utilizing information technology to deliver public services; and, 4) the increasingly international scope of public administration as regards to management issues, policy and inter-governmental cooperation. Clearly the 311 is centrally related to the third aspect of information technology, but is also a means to build government trust through citizen-government interactions. Hood goes on to identify seven components of NPM: 1) Hands on professional management in the public sector; 2) Explicit standards and measures of performance; 3) Greater emphasis on results; 4) Shift to break up monolithic type units in the public service; 5) Focus on greater competition in the public service; 6) Emphasis on private-sector styles of management; and, 7) Focus on doing more with less. Government

call centers (311) have the capacity to deliver on some of these promises by utilizing IT to deliver services and measure performance. The reporting capabilities of 311 government call centers allow for explicit standards and measures of performance to be set and measured over time.

The second approach by Christopher Pollitt (Shafritz, Russell, Borick, 2010) identifies four aspects of New Public Management: 1) Government services that cannot be privatized completely, but could be allowed to adopt market-like mechanisms; 2) Decentralization of organizational management and production of services; 3) Continuous emphasis on the improvement of service quality; and, 4) Greater attention to the needs of the customer (i.e., citizen). When a local government entity makes the decision to adopt a 311 government call center, it is essentially making the commitment to be more accessible to citizens and to continue to improve services. Local governments such as New York City and Miami-Dade County have also often used the data produced by their 311 government call centers to improve the quality and delivery of services to their local citizens.

311 and Digital-Era Governance

Digital –era governance is a term coined by Dunleavy et al, (2006) to describe the changes throughout the bureaucratic state that are occurring indirectly through the use of information technology. Bureaucratic adaptations are occurring "via a wide range of cognitive, behavioral, organizational, political, and cultural change that are linked to information systems" (Dunleavy et al, 2006). Information technology is changing the way governments manage systems and interact with citizens. They state that the digital

era of governance is not only about the adoption of technology in government but about the organizational changes it entails. Kataria (2010) argues that the concept of governance, whether technology driven or not, is to be materialized by government itself. Sharma and Shekhawat (2010) believe that digitalization has not only made government more responsive but has increased its accountability in delivering better services to citizens by allowing for direct participation of citizens in the governance process. Wiredu (2012) opines that IT is an instrument for governance transformation in the digital era.

It could be argued that 311 government call centers are contributing to digital-era governance. The 311 government call centers are delivering efficient and effective services to citizens. The data captured by 311 government call centers are being used to make changes within local governments that contributes to efficient and effective delivery of services to citizens. The 311 call centers are also contributing directly and indirectly to bureaucratic change. They are reengineering many of existing business processes within local governments. The 311 transforms municipal departments from being in vertical silos to that of horizontally connected arrangements. The department leaders need to be responsive to the real-time performance mechanisms that are citizen oriented, rather than being inward oriented.

Diffusion of Innovation Theory

The 311 is arguably an organizational innovation, principally using the newer developments in information and communication technologies. The theories of innovation and its diffusion are thus critical to informing how the 311 is adopted or not adopted by municipal governments. Rogers' classical theory of innovation is significant

since it is one of the early influential theories to describe how innovation is adopted over time. Rogers (1983) states that getting a new idea adopted is very difficult even when there are significant advantages to the new idea. The process of adoption can take many years from start to finish. Rogers identifies the time frame of the adoption process as the rate of diffusion of innovation. The first 311 government call center was adopted in 1996 and to date there are still relatively few 311 government call centers in comparison to the actual number of cities and counties in the United States. The rate of diffusion of innovation in regards to the adoption of 311 government call centers across the United States is low compared to other technology based services such as municipal websites.

Four elements in Rogers diffusion of innovation process that pertains to 311 government call center adoption are innovation, communication channels, time and social systems. These four elements can be seen in the adoption process of most 311 government call centers. Innovation is defined as “an idea, practice, or object that is perceived as new” (Rogers, 1983). Compared to traditional municipal service departments (such as waste disposal), 311 government call centers are fairly new. Communication channel is defined as “the means by which messages get from one individual to another.” The collaboration involved in setting up a 311 government call center demands the need for collaborative communication channels through the CRM. Time is important because the innovation-decision process occurs in a time-ordered sequence of knowledge, persuasion, decision, implementation, and confirmation. The chronological process can be seen in the adoption process of 311 government call center. The social system is defined as “a set of interrelated units that are engaged in joint problem solving to accomplish a common goal” (Rogers, 1983). Fleming (2008) states

that there needs to be collaboration throughout all levels of an organization for successful adoption of a 311 government call center.

A critical element in the diffusion of innovation process is social systems. Rogers states that the structure of social systems can either facilitate or impede the diffusion of innovation. The social context matters for the adoption of the 311 government call centers too. Rogers identified three types of ways that decisions are made during the innovation of diffusion process within a social system. The first is the innovation-decision process where the decision to adopt or reject an innovation is made by an individual independent of others within a social system. The second is the collective innovation-decision process where the decision to adopt or reject an innovation is made by consensus among the members of a social system. The third is the authority innovation decision process where the decision to adopt or reject an innovation is made by a very few elite individuals who possess power, status, and or technical expertise. Rogers (1983) opines that the fastest adoption occurs through the authority innovation decision process.

Since Rogers' classical theory, several other authors have refined the innovation and its diffusion theory through further empirical investigations. Zaltman et al. (1973) define innovation as "any idea, practice, or material artifact perceived to be new by the relevant unit of adoption." Using this definition, even if an innovation has been in existence for a long while, as long as the unit adopting the innovation perceives it as new, then it can be considered innovative. Gross, Giacquinta, and Bernstein in Zaltman et al. (1973), define organizational innovation as "any proposed idea, or set of ideas, about how the organizational behavior of members should be changed in order to resolve problems

of the organization or to improve its performance" (p. 16). Another approach identified by Zaltman et al. (1973) defines innovation as "the first or early use of an idea by one of a set of organizations with similar goals." Organizations that adopt early are considered innovators in this approach, and organizations that adopt after everyone else are not considered innovators.

Mercer and Philips (1981) define innovation as "an approach that a specific local government has not tried previously." They identify two factors that contribute to the adoption of innovation by local governments. They are: "(1) the extent to which the innovation has been developed to the point where it is applicable and (2) the extent to which it is available at the time when the need is perceived" (Mercer and Philips, 1981). Cities and counties that chose to adopt 311 call centers, regardless of when they chose to adopt, could be classified as innovators on the basis of the definitions identified above. On one hand, the concept of the 311 government call centers is evolving and is still a novel idea. On the other hand, 311 adoption is new to any local government since it requires specific organizational changes within the municipality.

Technology Adoption within the Public Sector

Technology adoption within the public sector has been identified as lagging behind the private sector. Garson (2006) states that technology adoption happens at a slower rate within the public sector than the private sector. Unlike the private sector, public institutions have a political layer of accountability. Besides being accountable to elected officials, the bureaucracy within public institutions can inhibit the responsiveness of an organization to change (Fountain, 2001).

Several theories regarding technology adoption within the public sector are put forth by Garson (2006), Fountain (2001), and Mercer and Philips (1981). Garson (2006) identifies four theories, technological determination, reinforcement theory, sociotechnical theory and systems theory that play important roles in the adoption of technology in the public sector. Fountain (2001) puts forth a basic model of technology enactment that focuses on institutional and organizational arrangements. Mercer and Philips (1981) argue that individuals have the most important role in successful transfer of technology in the public sector.

Garson defines technological determination as IT being an unstoppable force; technology will evolve regardless of bureaucratic manipulation. In the reinforcement theory IT is taken as a tool that can be manipulated by bureaucrats to reinforce their present powers. Used this way, IT reinforces the traditional bureaucratic structure. In sociotechnical theory the role of the IT personnel or innovator is that of an agent of change and the stakeholders have an affect on technology-based managerial systems. In the last theory, systems theory, the technological factors determine the efficiency and effectiveness of the organizational structures. Garson opines that the organizational factors contribute to either the success or failure of IT projects in the public sector.

Garson (2006) identifies two main categories of issues that lead to the successful implementation or failure of IT projects in the public sector: internal factors and external factors. The ten main internal factors that facilitate successful implementation of IT projects in the public sector are: 1) Management support; 2) Stakeholder Motivation; 3) Goal clarity; 4) Support for Organizational Culture; 5) Participatory Implementation; 6) User Friendliness; 7) Adequate Budgeting and Time Horizon; 8)Phased Implementation;

9) Process and Software Reengineering; and, 10) Project Management. Garson identified three main external factors as contributing to the successful implementation of IT projects: 1) Partnerships with Vendors and Other Strategic Partners; 2) Independence from Vendors; and, 3) Accountability to the Political Layer. The factors that lead to the failure of IT projects in the public sector are: 1) Complexity; 2) Commitment Failure; 3) Planning Failure; 4) Vision Failure; 5) Inappropriate Methods; 6) Short Time Horizon; 7) Turbulent Environments; and 8) Failure to Support End Users.

Building on institutional theories, Fountain (2001) advanced the enactment of technology as the theoretical framework for organizations to adopt or not adopt information technology. In this model, Fountain (2001) divided technology into two types; objective technology and enacted technology. Objective technology includes the internet, digital telecommunications, hardware, and software. Enacted technology is defined as the design and use of technology by its users and their perception of it. Fountain's enactment of technology model includes three organizational elements: organizational forms (bureaucracy network), institutional arrangements, and outcomes. She argues that organizational structure and culture affects the enacting of technology in the public sector.

Mercer and Philips (1981) argue that individuals are the main factor in the successful implementation of IT projects in the public sector. The individuals could act as a change agent to successfully implement technology within the public sector. For the individual to effectively act as a change agent, the person should have some level of independence from the daily operations of the local government, be close in proximity to the local government's chief executive, have sufficient time (one to two years) to

establish relations with the city departments, and have frequent opportunities to interact directly with other technology agents or science advisors. Mercer and Philips identified the following conditions for successful utilization of technology in the public sector:

- A technically oriented local elected official championed the innovation
- A politically aware local technical expert championed the innovation
- An individual from the technology supplier shepherding the technology through local implementation
- An individual from the public sector agency spending enough time with the technology to effect a successful transfer

Weerakkody and Dhillon in Reddick (2009) identify resistance from employees, legacy systems constraints, cultural and political constraints, lack of senior management commitment, negative employee attitude and resistance to change as the challenges to the development of information systems within public agencies. Another key factor is the need for current business processes to be reengineered to become more efficient at the delivery of services which would require radical organizational change. According to Weerakkody and Dhillon in Reddick (2009), the following factors are common barriers to the adoption of e-government initiatives: limited implementation time, poor information systems architecture, limited funds, lack of top management support and commitment, and employee resistance.

In the international context, Lin et al. (2008) examined the implementation of innovation policy at the national level for the countries of Ireland and Taiwan. They identified several models of national innovation policy. The first approach is the National Innovation Systems (NIS) approach developed by the Organization for Economic Co-

operation and Development (OECD). This approach focuses on the flow of technology and information among people, enterprises and institutions. On the basis of the NIS model, the flow of technology occurs in four ways: (1) interaction among enterprises; (2) interaction among enterprises, universities and the public sector; (3) diffusion of knowledge and technology to enterprises; (4) mobility of personnel between the private and public sector.

Another approach to the innovation process identified by Lin (2008) is market based, classifying policies as technology supply, technology demand, and technology supply-demand linkage policies. The corresponding policy tools are grouped into three categories: supply side, demand side, and environmental side. Supply side tools provide the basic resources for innovation; educational institutions, trained technicians, information networks, and technical advice. Demand side tools stimulate invention by the demand created by public spending and public services. Environmental side tools regulate the operating environment of firms.

Studies over the years have identified different socioeconomic factors that contribute to the adoption of technology and e-government innovations within the public sector. In Ho's (2002) study, the foreign born population was a significant factor in public sector technology adoption; in Moon and Norris's (2005) study, population size was a significant factor in e-government adoption. Huang (2009) highlighted the following socioeconomic factors as being significant to e-government adoption: population size, ethnicity, share of population with English as a second language, education status, median value of the communities' housing stock, median household income, and private employment.

Determinants of 311 Government Call Center Adoptions

Although the studies mentioned above highlight several useful factors for information technology adoption in the public sector, there are no specific studies that can be applied directly to the adoption process of 311 government call centers. We can use the insights from the other studies of technology adoption to make inferences about the plausible factors that could impact 311 adoption among municipal governments. These insights could be combined with the insights from the several case studies that have been conducted recently regarding the practical application of 311 government call center. The International City/County Management Association (ICMA) has written extensive case studies on the adoption of 311 government call centers in several cities and it provides technical assistance to cities and counties interested in adopting a 311 government call center. The ICMA conducted a nationwide survey in 2007, with responses from 701 cities and counties across the nation. Nam and Pardo (2014) have recently conducted comparative in-depth case studies of New York City's 311 and Philadelphia's 311 utilizing qualitative research methods.

The case studies have highlighted several factors in the adoption of the 311 call centers. Nam and Pardo (2014) identified the following factors as critical to the success of New York City 311 and Philadelphia 311: dedicated funding, leadership of top management, organizational culture, training, executive support, human resource management, and investment in technology. Challenges identified were: technology challenges, limited funding, bureaucracy-laden procedures, organizational culture, and cross- organizational challenges (interpersonal-based collaboration and department turf protection). Caillier (2009) identified four factors that could be used as predictors of 311

adoptions: (1) Localities with high revenue capacities were more likely to adopt a 311 government call center, (2) Cities were more likely than counties to adopt a 311 call center, (3) Cities and counties with large populations were more likely to adopt a 311 call center, and (4) Southern cities and municipalities were more likely to have adopted a 311 call center.

Summary

The present dissertation contributes to the gaps in the literature regarding 311 government call center adoption. There are several studies on technology adoption within in the public sector and e-government in general, but there is limited empirical study looking specifically at the 311 adoption process. The current study fills an important gap in the literature by providing a mixed method research approach of looking at the adoption process of 311 government call centers and identifying the significant factors that contribute to the adoption process.

We can surmise that one of the major trends of public administration is the New Public Management (NPM) approach, which aims to make public sector more like the private sector with an emphasis on treating citizens like customers. One assumption is that if citizens are treated like customers then service, ethics and efficiency can be improved (Schelin, 2004). If we use the working definition of e-government as defined by the American Society for Public Administration and the United Nation's Division for Public Economics and Public Administration (Rosenbloom and Kravchuk, 2005) and by Garson (2006), 311 call centers can be identified as an example of New Public Management in practice through the use of e-government. It can also be said that 311

government call centers is a manifestation of the digital-era governance. Mercer (1981) argues that with the ever increasing demand by citizens for more government services but at a lower cost, technology should be utilized to help governments provide these services in a more efficient and effective manner. Government 311 call centers could be a plausible solution, and this study on factors for the adoption of 311 in municipal governments is significant in this context.

Chapter 3. Research Methodology

Introduction

The methodology employed in this dissertation study is that of an exploratory research approach, using both qualitative and quantitative research methods. The qualitative method is inductive in nature (Patton, 2002), in order to identify the thematic patterns of the adoption of the 311 government call centers. The case study method is used to examine the specific features of 311 adoption in selected municipalities. The themes are then examined through the general theory of technology innovation adoption in order to explain the observed patterns (Babbie, 2008). The quantitative method is deductive in nature, in order to generalize the observed patterns for testing the broader application of the themes to adoption of 311 government call centers beyond the case studies. The purpose of this study is to identify factors that are significant in the adoption process of 311 government centralized call centers and to rank these factors by level of significance.

This chapter offers a discussion of the methods and procedures utilized in gathering data for this study and the data analysis procedures. As outlined above, the study utilized a mixed methods approach combining both qualitative and quantitative research methods. The chapter begins by outlining the purpose and aim for this study. The subsequent two sections describe both the qualitative and quantitative research methods used in the study, followed by a description of the survey instrument and data analysis procedures. The chapter ends with a discussion of reliability and validity issues relevant to the study.

Purpose of the Study

This study aims to identify the factors that are significant in the adoption process of 311 government call centers in the United States and to rank these factors by levels of significance. Presently, the scholarship on 311 government call centers is limited. The majority of studies on 311 government call centers are practitioner oriented, and have been conducted by the International City/County Management Association (ICMA) in conjunction with the Alfred P. Sloan foundation. The ICMA in 2007 conducted the first national survey on local government use of customer service systems that also included 311 government call centers. The ICMA survey was broad in nature, examining the emergence of 311 government call centers, the departments that utilized them, and the types of services most requested. The present study differs from the ICMA 2007 survey in that it deals with the adoption process of 311 government call centers in municipal governments.

The main objective of this study is to identify the specific factors that contribute to the adoption or non-adoption of a 311 government call center by a municipal government. In achieving this objective, there are two aims. The first aim is to explore and analyze the adoption process of 311 centralized governments call centers within local government entities within the United States. In this part, the purpose is to inductively examine the contextual factors (political, social, and administrative) that affect the adoption of 311 government call centers. The second aim of the dissertation is to determine what factors affect adoption and utilization of 311 centralized government call centers. In the second part of the research, the purpose is to make a deductive

examination of the broader set of factors that affect the adoption of 311 call centers across municipal governments.

Research Design

As mentioned before, this study is exploratory in nature and utilizes a mixed method approach combining both qualitative and quantitative data analysis approaches. In the absence of extant research, the exploratory research method is appropriate to to conceptualize the specific theories that contribute to the adoption of 311 government call centers. The literature review highlighted how the present theoretical approaches in public administration help explain the adoption of information technology in existing organizations in general, but do not explain the emergence of new organizational structures such as the 311 government call centers. In this context, I use Rogers' (1995) diffusion of innovation theory extensively to frame the emergence and adoption of the 311 government call centers. Consistent with the dissertation's two aims, the study consists of two parts: the first part is an inductive analysis using qualitative methods to understand the deeper particular factors of 311 adoption, and the second part is a deductive analysis using quantitative methods for identifying the general factors of adoption. The qualitative and quantitative research methods are explained below.

The mixed method research strategy is crucial for the present study. The approach allows for methodological triangulation, which is "the use of multiple methods to study a single problem or program" (Patton, 2002). Methodological triangulation combines both qualitative and quantitative research methods, to increase the reliability and validity of research finding (Babbie, 2008). There are two additional key ways of triangulation

(Denzin, 1978; Patton, 2002): data triangulation and theory triangulation. The data triangulation is of data sources and analytical perspectives to increase the accuracy and credibility of findings (Patton, 2002). The theory triangulation employs different theoretical lenses to examine the same phenomenon. In the present dissertation, the data triangulation is evident in the multiple and independent sources from which the data are gathered. The theoretical triangulation is also evident from the different theoretical perspectives that I use in the examination of the adoption of the 311 government call centers. The qualitative and the quantitative research methods underlying the mixed-methods and triangulation are explained in the next two sections.

Qualitative Research Methods

The first phase of this research utilizes qualitative research methods to meet the first aim of this research. In this part, the main aim is to explore and analyze the adoption process of 311 centralized governments call centers within local governments. Qualitative research methods can be described as the collection of non-numeric data which can be categorized in three forms; interview, observation, and documents (Patton, 2002). “Qualitative data are in the form of text, written words, phrases, or symbols describing or representing people, actions, and events in social life” (Neuman, 2004). I utilized the qualitative methods of interviews and document analyses to construct the case studies of selected 311 government call centers across the United States.

Since there is sparse literature dealing specifically with 311 government call centers, the interviews with key individuals involved in the initial stages of the 311 adoption provided good insights into the adoption and implementation process of the

selected 311 government call centers. As Patton (2002) claims, the interviews "yield in-depth responses about people's experiences, perceptions, opinions, feelings and knowledge." Using the interviews, I identified the factors specific to the adoption of 311 call centers not addressed in scholarly research. The theoretical lenses were then used to determine if real world scenarios matched broad existing theories on adoption of technology in the public sector. The interviews were mainly one-on-one and semi structured, conducted in person or over the phone.

The interview participants were recruited through two types of nonprobability-sampling techniques, purposive and snowball sampling. Purposive sampling is appropriate for expert interviews in my study since I needed to interview knowledgeable individuals and experts from the case study cities and counties (Babbie, 2008). I contacted 311 call center managers or administrators from the selected cities and counties. These cities contacted where selected from a list of cities that were identified as having a 311 government call center or where in the process of adopting a 311 call center. The list, which is periodically updated, can be found at the following website http://www.911dispatch.com/info/311map.html (it is maintained by Dispatch Magazine Online).

The next approach was to use the snowball sampling. Snowball sampling is the process of obtaining additional interview references from existing interviewees, whereby one person being "interviewed may be asked to suggest additional people for interviewing" (Babbie, 2008). The first interview was conducted at Miami-Dade County 311, which is a well-established government call center. The interviewee offered additional contact details of managers of several call centers throughout the country

which led to one-one interviews with the call center manager at the City of New York's 311 and the Orange County's 311 Call Center.

Besides the purposive and snowball sampling, cold calls were made and e-mails sent out to various cities and counties that had adopted a 311 government call center, requesting either phone interviews or one-on-one interviews. Using the cold case approach, phone interviews was conducted with the call center manager for the City of Denver, Colorado and an in-person interview with the call center manager in the city of Columbia, South Carolina. In addition to the call center managers, interviews were conducted with the information technology administrators of the cities. Whenever interviews were conducted in-person, there was also a tour of the 311 call center facilities to observe the 311 call takers in action.

All the interviews conducted were recorded on a digital recorder, notes were taking during the interview process. All the interviews were transcribed for analysis. As Patton (2002) mentions, the interview "data and analysis involves making sense out of what people have said" and we are principally "looking for patterns." The interview transcriptions were examined to identify the common themes that emerged with respect to adoption. The themes were mapped with the interviews across cities to identify the common patterns of adoption across the different cities.

The interviews were combined with other documentary evidence to create the case studies of the five municipalities indicated in Table 3.1 (Patton, 2002). The document reviews included the official reports, council meeting minutes, and 311 reports from the municipalities. Secondary published literature was also examined on the 311 call centers (e.g., ICMA reports, newspapers, and other case literature). The documents

give the historical, political, and social context of the 311 government call centers that are generally available in the public domain. As Yin (1989, p. 13) argues, the case study approach is suitable for "investigating a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." The context is complex, with many data points that resist reductionism to a few data points for quantitative analysis. There are multiple sources of evidence to construct the case study in context (the interviews, official documents, secondary reports).

Table 3.1: Cities and Counties of Interviews

CITY/COUNTY	POPULATION (2010)
City of Columbia, South Carolina	129,272
City of Denver, Colorado	600,158
Orange County, Florida	1,145,956
Miami-Dade County, Florida	2,496,435
City of New York, New York	8,175,133

Source: U.S. Census Bureau (http://www.census.gov/popfinder/)

The Table 3.1 lists the cities/ counties of case studies. The municipalities were chosen on the basis of the population size, and aimed to cover municipalities with a wide range to capture all the special features of 311 government call center adoption across the different sizes. As the table shows, the city sizes ranged from small municipality (City of Columbia in South Carolina state) to the very large (City of New York in New York state). The other cities/ counties ranged between these two extremes (City of Denver, Colorado; Orange County, Florida; and Miami-Dade County, Florida). There was no attempt to make a broad geographical distribution in selecting the case studies, since the

main purpose was to examine those municipalities which have established 311 call centers (or were seriously planning one). The cities and counties selected have enough variations among them to provide theoretically rich insights into the 311 call center adoption.

Quantitative Research Methods

This second phase of research utilized quantitative research methods. Quantitative research methods consist of techniques such as experiments, surveys, content analyses, and other data analysis that is numerical in nature (Neuman, 2004). In the present study, the quantitative method entailed a survey that was administered online and through the mail. As Babbie (2008) maintains, the survey research is the best research method to collect primary data from a population that may be too large to observe directly.

The sample population for the survey comprised of cities within the United States with population size over 25,000 (data obtained from the 2010 US Census). All cities with populations over 100,000 were included in the initial sample (n=238) along with randomly selected cities with population 25,000 to 99,999 (n=581). An initial sample of 819 cities was obtained.

The survey was conducted in two phases. In the first phase, online surveys were used. Surveys were emailed to cities that provided e-mail addresses for their city managers and mayors on their websites. On the basis of available e-mail addresses on city websites the sample size was further reduced to 622 cities in total. Online surveys have several advantages over regular mailed surveys. The first major advantage is that of cost, online surveys cost less to administer and process than that of mail surveys. The

scale of an online survey is not affected by financial resources. In some estimates the cost of an online survey are one-sixth the cost of mailed surveys (Ilieva, Baron and Healey, 2002; Sax, Gilmartin and Bryant, 2003; Deutskens, and de Ruyter, Wetzels, 2006). Because of the low administration costs additional follow-up surveys can be sent (Evans and Mathur, 2005). Another major advantage of an online survey is the faster response time than traditional mail surveys. On the basis of a study conducted by Ilieva, Baron, Healey (2002) average response time for online surveys was approximately 5.59 days compared to the average response time for traditional mail surveys which was 12.21 days. They also alluded to the fact that response time may be affected by the time of year. For example, surveys sent out during the summer months have a longer response time because people check their emails less frequently.

The average response time for online surveys in this study was roughly 48 hours. Very few responses came in after the 48 hours window. Also, surveys that were sent out to respondents on a Sunday had a better response time than surveys sent out during the regular work week. One explanation for this could be the fact that individuals may utilize Mondays to catch up on e-mail correspondents. Some other advantages that online surveys have over mailed surveys are identified by Evans and Mathur (2005); flexibility, speed and timeliness, convenience, ease of data entry and analysis, low administration costs, ease of follow-up, large sample easy to obtain, control of answer order, and required completion of answers.

Despite the significant advantages of online surveys, they do have one major drawback: they have low response rate. The response rate for online surveys have been placed in the range of 15 percent to 29 percent (Ilieva, Baroon and Healey 2002). One

possible reason for this could be a result of online surveys classified as junk mail, so the opportunity is lost for a response before the recipient actually sees the survey. There was a low response rate during the first phase of data collection during the study, after four waves of emails, response rate was only at 15.9 percent.

In the e-mail I had provided an online link for respondents to complete the survey. Four waves of emails were sent out between July 18, 2011 and September 4, 2011 at one to two week intervals. One last wave of e-mails was sent out the week of May 14, 2012. The last two waves of emails did not receive any responses. Despite the many waves of e-mails, response rate remained very low. Of 622 surveys emailed, 99 surveys were attempted and only 84 surveys completed, giving a low response rate of 15.9 percent.

To increase the response rate, I sent out a regular mail survey in the second phase (sent on July 12 and 13, 2012). A hard copy of the online survey was mailed out to those cities that did not respond to the online survey. In total 521 surveys were mailed out. The mailing included a copy of the survey, and a letter of introduction and explanation. To help increase the response rate a small monetary reward ($1) was included in the mailing, as well as a stamped return envelope; respondents were also offered the opportunity to have results sent to them if they so desired. The survey was also printed on colored paper stock so it would stand out once the envelope was opened. To keep track of survey respondents the return label in the left hand corner of the stamped return envelope included the name and address of the city responding. Even though the mail survey had the option for respondents to fill in their city and state, the return label was another tracking mechanism in case respondents forgot to fill in this information. The mail survey as well as the introductory letter included a link to the online version of the survey giving

respondents the option to complete the survey online. Responses came in as early as July 18, from those respondents who chose to complete the survey online. Out of the 521 surveys mailed out, 176 were returned completed by regular mail. In total, there were 260 surveys (84 online, 176 by mail) completed giving a response rate of forty-two percent.

Survey Instrument

The survey questionnaire was developed after analysis of the qualitative data compiled from the interviews conducted with 311 government call center managers and administrators. Following recurring themes identified in the interview data as well as from the literature review, the survey was constructed along the following themes: technology champion, financial resources, political and administrative influences, and citizen satisfaction. Some questions were adapted from the 2007 311 Call Center Survey that was carried out by the ICMA in conjunction with the Sloan Foundation.

The questions were in the format of Likert scales. Likert scales are used extensively in social science research to determine whether individuals agree with or disagree with a statement (Neuman, 2004). In the survey there were four categories that respondents had to choose from in regards to specific statements; very significant, significant, somewhat significant, and not significant. According to Neuman (2004) it is better to use four to eight categories in a likert scale, using too few will give a very crude measure and utilizing more than eight categories does not offer up any more meaningful information. The questionnaire did not offer a neutral category as a choice for response (e.g., not applicable, undecided).The survey comprised of twenty-three questions, broken up into two distinct parts: one part for cities with 311 call centers, the other part for cities

without a 311 call center. The first four questions asked for general demographic data regarding population, governmental structure, and name and location of city. Questions 5 and 6 determined what part of the survey respondents would need to complete. If a city did not have a 311 call center survey they filled out questions seven to thirteen. If a city had a 311 call center or was in the process of implementing one they filled out questions fourteen to twenty-three.

Survey respondents who completed the survey online were automatically directed to the appropriate questions. Survey respondents who completed the paper form of the survey were directed to complete questions on specific pages depending on whether or not their jurisdiction had adopted a 311 government call center. Since the overall 311 adoption is low nation-wide, the questions for non-adopters were placed before the questions for non-adopters in the paper survey. The questions for non-adopters were grouped into four categories. These categories were chosen on the basis of themes found in the research literature and from the interviews conducted with 311 call center managers and directors. The first group of questions were general miscellaneous group of questions dealing with leadership and demand for 311. The second group of questions focused on the financial aspect of starting up a 311 call center. The third group of questions focused on management and administrative issues. The fourth group of questions dealt with issues pertaining to the organizational attitudes towards citizen satisfaction and customer service. The responses for the four groups of questions were in the form of a four point Likert scale (very significant, significant, somewhat significant, and not significant). Following the four groups of questions was an open ended question asking respondents to identify any factors that they thought might explain the non-

adoption of a 311 call center in their jurisdiction. The respondents were then asked to indicate the number of years of employment and identify whether their position was supervisory or non-supervisory.

As previously stated, survey respondents who completed the survey online were automatically taken to specific questions dependent on whether or not their jurisdiction had adopted a 311 government call center. For the paper form of the survey, questions pertaining to the adoption of 311 government call centers were placed towards the end of the survey as a result of the small number of adopters of 311 call centers. Individuals were first asked to identify the year the 311 was adopted, the number of jurisdictions covered by the call center, and the stage of their call center (adoption or implementation stage). The subsequent questions could be categorized into four groups of questions. The response options to these questions were also on a four-point Likert scale (very significant, significant, somewhat significant, and not significant). The first group of questions dealt with management and administrative issues. The second group of questions focused on the financial aspect of starting up a 311 call center. The third group of questions also focused on management and administrative issues. And the fourth group of questions dealt with organizational attitudes towards customer service and citizen satisfaction. Following the four groups of questions, respondents were giving an open ended question to identify any other factors they thought were pertinent to the adoption of a 311 government call center. The respondents were then asked to give their years of employment and identify whether their position was supervisory or non-supervisory.

Reliability and Validity Issues

As stated by Patton (2002) triangulation of data sources is utilized to increase the accuracy and credibility of findings. For this research a triangulated approach was utilized involving both quantitative and qualitative sources of data. Triangulation is done to "minimize bias, maximize accuracy, and report impartially" (Patton, 2002).

Reliability deals with the issue of whether a chosen method of measurement yields the same results if applied repeatedly. Neuman (2004) defines reliability as "the numerical results produced by an indicator do not vary because of characteristics of the measurement process or measurement instrument." There are four methods of improving the reliability of a measure: (1) clearly conceptualize constructs, 92) use a precise level of measurement, (3) use multiple indicators, and (4) use pilot tests (Neuman, 2004). At the beginning of the study the survey was pilot tested among eight individuals whom held supervisory positions within their respective organizations and who made frequent decisions regarding technology based products and projects. About half were from the private sector and half were from the public sector. Another approach to measuring reliability is to utilize a reliability coefficient. The reliability coefficient is estimated from the association of two measures of the same variable. To measure the degree of association a correlation coefficient is utilized; if the statistic approaches +1 the measures agree, if the statistic approaches 0 there is no correspondence (Dooley, 2001). Pearson Correlation Coefficient was utilized in the quantitative data analysis portion of this research to determine association of variables measured.

Validity is a term that has multiple definitions especially in the realm of social science research (Neuman, 2004). One very general definition of validity is whether or

not an empirical measure adequately reflects the true meaning of a concept (Babbie, 2008). The type of validity measures one would use is very much determined by the type of research design (Dooley, 2001). The main concerns of validity for this study are those of content validity and statistical validity. Content validity refers to how well a measure covers the range of meanings within a concept (Babbie, 2008). Statistical validity is concerned with whether or not the correct statistical procedure is chosen and its assumptions are fully met (Dooley, 2001; Neuman, 2004).

Content validity for this study was reinforced by utilizing a mixed method approach of both quantitative and qualitative research methods and analysis. This method of utilizing different research methods is called triangulation. Before the quantitative portion of this study was conducted, I first looked at a previous survey on 311 government call centers that was conducted in 2007 by the ICMA. I also looked at case studies conducted by the ICMA on 311 government call center adoption. I conducted interviews with call center managers and senior level Information Technology personnel in seven cities and counties across the United States. From the qualitative methods utilized, I developed the a survey instrument that was later pilot-tested among eight individuals from within the public and private sector. The main goal of utilizing the different methods of analysis and pilot-testing the survey is to increase the content validity of the survey.

The primary data collected from the surveys was analyzed using descriptive statistics, correlation matrix, and principle component analysis. The analysis was performed utilizing the statistical software program IBM SPSS Statistics version 20. Descriptive statistics was utilized to help organize and describe the data collected

(Frankfort-Nachmias & Leon-Guerrero, 2009). On the basis of the results of the descriptive analysis, the data were then divided into two groups of survey respondents: adopters and non-adopters of 311 government call centers. The number of respondents in each group then determined the type of analysis that was undertaken. Because of the small number (N=48) of respondents who indicated they were adopters of 311 call centers, the data analysis for adopters of 311 call centers was limited to descriptive statistics and correlation matrix.

For non-adopters of 311 call centers the number of respondents was greater (N=211). The greater number allowed for descriptive statistics, correlation matrix, and principal component analysis (PCA) a form of factor analysis to be conducted. As this study started out as exploratory in nature without a prior hypothesis, factor analysis was chosen as the ideal method of analysis. Factor analysis is a technique utilized to condense a larger set of variables into a smaller set of new variables with a minimum loss of information (Hair, Anderson, and Tatham, 1987). A general rule for factor analysis is that the sample size should be four or five times as many observations as there are variables to be analyzed (Hair, Anderson, and Tatham, 1987). Another general rule to follow in determining if there are enough responses for factor analysis is as follows: 100 respondents is poor, 200 is fair, and 300 respondents is good (Stevens, 2002). Prior to performing the PCA, the suitability of the data was assessed by running a correlation matrix. Inspection of the correlation matrix revealed the presence of many coefficients valued at 0.3 and above. Coefficients of 0.3 and above indicate at least a moderate relationship exists (Stevens, 2002). Consistent low correlations throughout the matrix would have made factor analysis inappropriate. To determine if the correlation matrix is

appropriate for factoring, a Kaiser-Meyer-Oklin measure of sampling adequacy was conducted. This test determines if the variables belong together and are appropriate for factor analysis (Hair, Anderson, & Tatham, 1987). The Kaiser-Meyer-Oklin value was 0.79, exceeding the recommended value of 0.6 (Stevens, 2002). Another test to check for appropriateness of factor analysis is Bartlett's test of sphericity. The Bartlett's test of sphericity value was statistically significance, supporting the factorability of the correlation matrix (Stevens, 2002). The items representing explanations for why the jurisdiction did not adopt a 311 program was subjected to a principal components analysis (PCA) using SPSS Version 20.

Summary

This chapter outlined the dissertation's methodology. The purpose of the study was first described, followed by the research design appropriate to the aims of the dissertation. The study uses a mixed method approach, spanning both qualitative and quantitative methods. Methodological triangulation was used in order to increase the reliability and validity of the study. The qualitative research method is essentially a case study approach, which is an in-depth study of government call centers in five cities/ counties. The case studies are constructed based on the interviews of key personnel, and reviews of documents. The quantitative research methods utilized involved both online and mailed surveys to city managers and mayors of cities with populations of 25,000 and above. The data analysis comprises of descriptive statistics, correlation matrix, and principal component analysis.

Chapter 4. Case Studies of 311 Government Call Centers

Introduction

This chapter is presents the in-depth case studies of 311 government call center in five municipalities: New York City, New York; Orange County, Florida; Miami-Dade County, Florida; Columbia, South Carolina; and Denver, Colorado. These 311 call centers have been around for less than fifteen years. The main objective of this chapter is to identify the rationale for the adoption of information technology within the public sector. Even though elements of existing theories can be found in each of the case studies, no one theory could be used to describe the adoption process of each entity or predict what path they take. In short, the following themes though were found to recur throughout the narratives: managerial support, financial constraints, organizational responsiveness, strategic plan placement, and presence of a technology champion.

The first part of this chapter outlines the case studies of the adoption in the aforementioned cities and counties. The second part of this chapter identifies the recurrent themes throughout the adoption process of these cities and counties and how they reinforce existing theories on technology adoption within the public sector.

Case Studies

The abovementioned five case studies were chosen to represent the range of population sizes, from small to the large. The New York City, New York and Columbia, South Carolina represent municipalities with the largest and the smallest population size. The other municipalities (Orange County, Florida; Miami-Dade County, Florida; and Denver, Colorado) represent the population sizes between the two extremes. The

localities were chosen to provide a richness of the narratives of the adoption of 311 government call centers across different municipality sizes. Ideally, the range of the case study sites should yield the broadest range of themes in the adoption of the 311 government call centers. The case studies are constructed from interviews and a review of documents (official records and secondary literature).

Case study of New York City, New York

The city of New York was chosen as the case study site primarily because of its large population size. The structure of the city government is also complex and the city offers a multitude of services. The New York City 311 would be considered an innovator in the area of 311 call centers as it was among the first set of 311 call centers to be adopted and implemented (Rogers, 1983). Located in the state of New York, New York City has a population of over 8.17 million and a population density of over 27,000 people per square mile. New York City not only the largest city in the United States but also the city with the highest population density.

Political Structure

New York City is divided into five boroughs; Bronx, Brooklyn, Queens, Staten Island, and Manhattan. The population of the Boroughs is given in Table 4.1. The city is unique in that it is made up of five boroughs that are considered as counties in New York state, but do not have county governments per se. All five boroughs are consolidated into New York City; it is the only major consolidated city within the State of New York. The city is comprised of three branches of government: executive, judicial and legislative. The executive branch of government is headed by the Mayor of the City. The current

mayor of New York Bill de Blasio, assumed office in January 1, 2014, and the preceding mayor was Mayor Michael Bloomberg who had served two consecutive four year terms.

Table 4.1: Population by Borough

Boroughs of New York	Population	Sq. Miles
The Bronx	1,385,108	42.10
Brooklyn	2,504,700	70.82
Queens	2,230,725	108.53
Manhattan	1,585,873	22.83
Staten Island	468,730	58.37

Source: US census data 2010

Mayoral elections are held every four years with two four-year terms being the maximum term limit for an individual to serve as mayor. New York City has a very strong mayor form of government. The mayor has the responsibility of the budget, can remove and appoint heads of city agencies, and modify or abolish bureaus, divisions or positions within the city government. The City Council is the city's legislative form of government. The council enacts local laws, amends the city charter as needed, approves the city's budget and makes decisions over land use policies. The city council is made up of fifty-one members elected from the five boroughs of New York City. The council members are elected every four years. Each of the five boroughs of New York City has a borough president. The main responsibilities of the borough presidents are to help identify areas of budget priorities within their respective boroughs, monitor the delivery of services within their boroughs and make recommendations on land usage. Borough presidents are elected every four years. The City Council and Borough Presidents work in

partnership with the Mayor's Office but the Mayor has more executive power (New York State, Department of State, 2011).

Figure 4.1: Five Boroughs of New York City

(http://commons.wikimedia.org/wiki/File:New_York_City_District_Map.png)

The geographic orientation of New York City and its five boroughs makes it a very complex city for administration and delivery of services (Figure 4.1). The most well known is the Borough of Manhattan, which is an island with the Hudson River flowing to its west, the East River on the east, and the Harlem River which separates it from the Bronx. It is the business capital of the world and has among the most expensive real estate in the world. The boroughs of Brooklyn and Queens are the located on Long Island. The Borough of Staten Island is on an island accessible by bridge and ferry service. The Borough of Staten Island is not accessible via subway from the other

boroughs. The geographical complexity of New York City makes the service provision through the 311 call centers also to be one of the complex ones in the country.

Economic context

New York City has one of the largest city economies in the world with a Gross Domestic Product (GDP) of $738 billion dollars in 2013 (Partnership for New York City, 2014). According to the US Bureau of Labor Statistics, the four major industrial sectors in New York City in 2013 were: education and health services (26.5%); professional and business services (21.4%); trade, transportation, and utilities (13.6%); leisure and hospitality (13.5%) (Bureau of Labor Statistics, 2014). As of 2014, the unemployment rate for New York City was approximately 6.6 percent with an average weekly wage for all industries at $1,231 (Bureau of Labor Statistics, 2014). New York City is part of the Metropolitan Statistical Area (MSA) of New York-Newark-Jersey City which encompasses areas in the states of New York, New Jersey and Pennsylvania. It is the largest metropolitan area in the country with an approximate population of 19,567,410 in 2010 (US Census Bureau, 2010). One of the most important regional economic engines in the area is that of the Port Authority of New York and New Jersey. It is responsible for the operation of Kennedy, LaGuardia, and Newark Airports, all aspects of port commerce in and around New York City and the Hudson River as well as bridges and tunnels between the two states (New York State, Department of State, 2011). The city is also the home of the Wall Street, which has one of the most significant stock exchanges in the world.

Social context

New York City has been the largest city in the United States since 1810 (New York State, Department of State, 2011). What makes the city so unique though is the diversity of its population. New York City continues to be an important transit point for first time migrants to the United States. On the basis of US Census data, thirty-seven percent of the population is foreign born with forty-nine percent of the population speaking a language other than English at home. In terms of race, New York City is made up of forty-four percent White (White alone, not Hispanic, thirty-three percent), twenty-five percent Black, twenty-nine percent Hispanic and thirteen percent Asian. The median household income is at $52,259 with twenty percent of the population earning below the poverty level (US Census).

Adoption of NYC 311

The story of New York City 311 began with Mayor Michael Bloomberg and his promise to the City of New York to make his administration more accessible, transparent, and accountable to the people. The cornerstone of his efforts is New York City 311 (http://cityroom.blogs.nytimes.com/2008/09/11/answers-about-311). Just two months after entering office, Mayor Bloomberg, along with City Commissioner Gino Menchini, rolled out plans for the creation of a 311 phone system for New York City. In a press release issued on January 31, 2002 the Mayor is quoted as saying:

> By introducing the 311 phone system, the City will end the frustrating bureaucracy New Yorkers encounter when they need help, this Citizen Service initiative will allow City residents to obtain important non-emergency services through one central, all-purpose phone number quickly and effectively, and it reflects this Administration's commitment to bringing government to the people. I am confident that the new 311

> system will vastly improve the way that New York City government functions.

By March 2003, New York City 311 was up and running. Compared to other jurisdictions that adopted 311 call centers, this was a fairly short time frame from conceptualization to adoption and implementation. This short time frame reinforces Rogers (1983) opinion that the fastest rate of adoption occurs through the authority innovation process, where the decision to adopt an innovation is made by a very few elite who possess power, status, and technical expertise.

In a *New York Times* article Bloomberg's technology background is credited as being the impetus for his push to establish New York City 311 (Steinhauer, 2002). In 1981, Michael Bloomberg started his own company, Bloomberg LP. The company's focus was to utilize technological innovations to provide transparent, more efficient services to buyers and sellers of financial securities. According to the *New York Times* article, Michael Bloomberg was also closely involved in his company's call center. This corroborates Mercer and Philips (1981) statement that for successful utilization to occur there needs to be a technically oriented local elected official.

The Department of Information Technology and Telecommunications (DoITT) overseen by then City Commissioner Gino Menchini was responsible for setting up and running the new service. When Mayor Bloomberg entered office he immediately cut the budgets of almost every city agency except DoITT. The DoITT's budget was actually increased to facilitate the adoption and implementation of New York City 311. The DoITT received roughly $50 million to spend over two years to build the system (Steinhauer, 2002). By increasing the budget of DoITT, Mayor Bloomberg was

facilitating the implementation of the New York 311. The financial support is a key factor in the successful adoption and implementation on technology based projects (Moon and Norris 2005; GAO, 1995a, 1995b; ed. Garson 2005; Garson 2006).

The 311 was placed under DoITT because the then Mayor Bloomberg wanted the 311 to be functional within a year. The DoITT had the technical infrastructure and the personnel to get it done. It was recognized early on that it would be a technology based project. Even though DoITT had the technology and personnel, they acknowledged that they did not know how to build a call center from scratch. A private company, Accenture, was brought in as a consultant and project leader because the company was considered a leader in the area of systems integration. Such partnership with the private sector is a crucial external factor for successful innovation adoption.

For successful adoption of any technology to occur there has to be a change in organizational culture (Fountain 2001, Garson 2006).There was initial resistance at first from city departments regardless of whether or not they had their own call centers. The new 311 system would allow for greater transparency and accountability. To deal with the various concerns, the Mayor established a group called the Content and Agency Relations (CAR). The group was designed to go out and meet with each city agency, understand what services they provide, and break down the services to the core element. The CAR acted as the liaison between the departments and New York 311. If the departments had any concerns they contacted their CAR's rep to discuss and voice their concerns. This type of participatory implementation is identified by Garson (2006) as an internal factor that contributes to technology adoption within an organization. Without

participatory implementation it can be argued that the shift needed in organizational culture to embrace New York 311 would not have happened.

Local newspapers and officials within the New York City government acknowledge that 311 is Mayor Bloomberg's pet project. The mayor utilized every opportunity to promote NYC 311. During the recent natural disaster of Superstorm Sandy that made land fall in the New York metro area in October 2012, Mayor Bloomberg constantly urged citizens to contact NYC 311 for non-emergency information and to leave 911 for true emergency. The history of NYC311 shows that the adoption process of New York City 311 is a classic example of Rogers (1983) authority innovation process.

Case Study of Orange County, Florida

Orange County 311 was chosen because it is one of the few call centers nation-wide that is administered at a County level. Orange County is located in the central part of the state of Florida; it is part of the Orlando-Kissimmee-Sanford Metropolitan area. The city of Orlando and twelve other municipalities are located within its borders. Orange County is more recognizable for the city of Orlando and being the home of such theme parks as Walt-Disney World, Sea World and Universal Studios. The municipal services of Orange County are spread over 900 square miles with a population density of 1,268.5 persons per square mile. One of the main challenges of Orange County is to provide services and make them accessible to citizens not only in densely populated areas such as the Greater Orlando area but also in such areas that are rural and less densely populated such as East Orange County. Orange County still has many rural un-incorporated areas within its boundaries.

Figure 4.2: Orange County, Florida

Political Structure

Orange County government is that of a Commission-Administrator type government made up of two branches: the legislative and executive branches. The legislative branch of Orange County government is made up of a board of six county commissioners that are elected every four year. Each county commissioner is elected from a single member district. Each district is supposed to be as equal as possible in terms of population. The elections are staggered so that three county commissioners are up for election every two years. No county commissioner can run for more than two consecutive four year terms. The board of county commissioners has the powers to originate, terminate and regulate legislative and policy matters. The board does not have the power to interfere in the jobs of county employees, officers or agents who fall under the direct and indirect supervision of the County Chairman (Orange County Supervisor of Elections, 2014).

The executive branch of Orange County government is comprised of an elected County Chairman, an appointed County Administrator, and all the employees and officers provided for under the County Charter. The County Chairman's position is an elected one with elections occurring every four years. Individuals can only be elected for

a maximum of two four-year terms. The position of County Chairman falls under the oversight of the County Commissioners; the County Chairman votes alongside the board but is accountable to the Board of County Commissioners. The County Administrator is appointed by the County Chairman and confirmed by the board. The County Administrator position is to assist the County Chairman in the day to day running of the County (Orange County Supervisor of Elections, 2014).

Economic context

Orange County, Florida is part of a very important MSA in Florida, namely the Orlando-Kissimmee-Sanford MSA. The MSA includes the theme parks that Orlando is so famously known for: Walt Disney World theme parks, Sea World, Universal Studios and several smaller theme parks. The MSA is thus oriented towards tourism industry. This MSA contributes to sixty-three percent of personal income in the area (Bureau of Economic Analysis, 2014). The top four industries in Orange County are: Arts, entertainment, recreation, accommodation and food services (18.9%); Educational services, health care and social assistance (18.6%); Professional, scientific, management and administrative services (13.9%); and retail trade (12.7%) (Bureau of Labor Statistics, 2014). According to the Bureau of Labor Statistics (2014) the average weekly wage in Orange County in 2013 was $804. The unemployment rate for the area for 2013 was 6.2 percent. Seventeen percent of the population earned income below the poverty level.

Social context

Orange County had a total population of 1,145,956 people, as per the in 2010 Census (US Census Bureau, 2010). It is the fifth largest county in the state of Florida.

The racial composition is that of sixty-five percent White, twenty-one percent Black, six percent multi-racial, and five percent Asian. There is a total Hispanic population of twenty-eight percent with fourteen percent of the Hispanic population identifying as Puerto Rican. Nineteen percent of the population is foreign born with thirty-three percent of the population speaking a language other than English at home (US Census Bureau, 2010).

Adoption of Orange County 311

Orange County's 311 call center came about from the need of the county to reduce the number of non-emergency calls being handled by its 911 emergency system. The Orange County 911 system was being overwhelmed, and was not meeting its mandate of answering 90 percent of its calls within a 10 second timeframe. The main cause was the high volume of non-emergency calls being handled by the 911 system, although there were many "phantom callers" who were dialing 911 unintentionally from mobile phones. County officials were also looking for an avenue to provide better services and information to its residents and visitors. Orange County is unique in that it not only has to cater to approximately 1 million residents but also to 52 million annual tourists and seasonal residents (Vanowen, 2011). Many of the county's 319 facilities and services are spread out over 900 square miles. Before adopting a centralized call center, the county had as many as 52 county-operated call centers spread throughout the county.

The initiative for the 311 call center came from within the Orange County government and the Sheriff's Office. The initial funding for Orange County 311 was provided through the Orange County's Sheriff's Office, which was made possible by a

grant from the US Department of Justice's Office of Community Oriented Policing Services (COPS). The COPS awarded a grant of approximately $500,000 in the fiscal year 2000. The COPS program was to provide funding to any jurisdiction in order to initiate solutions that would reduce the number of non-emergency calls to their 911 systems. Orange County administrators saw the grant as an ideal opportunity to partner with the Sheriff's Office to implement the 311 system. Unfortunately the process from initial funding to actual implementation was a bumpy one. The actual process of conception to adoption took three years.

The initial phase of adoption involved input from municipalities within Orange County. Each municipality would have a representative that sat on a board that also included project planning staff. The board was called the 311 PSAP (Public Safety Answering Points) Steering Committee. The committee would meet monthly to put together a model for the consolidated 311 non-emergency call center. The first set of meetings took place in Fall 2000. Rogers (1983) would call this a collective innovation-decision making process, where the choice to adopt or reject an innovation is made by consensus. The committee made site visits to cities that had or were in the process of developing a non-emergency call center, such as Austin and Dallas in Texas, and Chicago in Illinois. After the site visits, the committee determined that the main focus of the new 311 call center should be public safety oriented non-emergency calls. The approach adopted by the PSAP reflects Garson's (2006) process of stakeholder motivation to innovate. Part of the process involves conducting a needs assessment that leads to goal clarification.

One major complication came from the participating municipalities who were represented on the PSAP Steering Committee. Because of a 911 funding change implemented by Orange County government, a 911 surcharge that smaller municipalities were previously reimbursed for on traffic tickets, was discontinued. The original intent of the surcharge was to help fund development, maintenance and improvement of radio systems throughout Orange County. When this reimbursement of funds was discontinued, the 311 call center lost support from the municipalities within the County. Municipalities felt they would be stuck with funding a service that they would not benefit from. Garson (2006) states in the stakeholder motivation process that it is harder to motivate stakeholders when they cannot see the financial benefit of their participation. Because the municipalities in Orange County could see no financial benefit they removed their support. Later attempts at the State Legislature level to address the funding of 311 call centers throughout the State of Florida failed. To all intents and purposes it looked like the 311 call center project for Orange County was about to collapse.

Even after the initial setback of losing key support from local municipalities within Orange County and the failure to have legislation passed at the State level, the 311 PSAP committee members did not give up on the project. The committee decided to move forward with a new approach. The new approach would involve centralizing a select number of county services under one roof called the Government Service Center (GSC). The committee determined that animal services, code enforcement, and the Citizen's Action hotline of the Mayor's office would be combined. The committee began to move forward with this new concept in September 2002.

One key person who was instrumental in bringing the project to fruition was a Marilyn Ward, the manager of the Public Safety Communications Division. She was instrumental in helping to put together the concept of a 311 call center; she helped in the grant process, and she helped win the support of the project from County Commissioners. Marilyn Ward could be identified as the change agent central to the success of Orange County 311 (Rogers 1983; Mercer and Philips, 1981). She had spent enough time on technology issues as a manager of the public safety commission in order to influence a successful adoption of the technology (Mercer and Philips 1981). Ward, along with Lorenzo Williams, manager of the Citizen's Action Link call center, met with each County Commissioner and their staff to educate them on the benefits of the new concept. Ward and Williams literally "sold" the new concept to top management and elected officials.

Top management support is a major factor to any successful adoption of technology within the public sector (Mercer and Philips 1981; Rogers 1983; Garson 2006). Once County Commissioners and the Orange County Mayor's Office were sold on the new approach, call center agents from the previously mentioned agencies were relocated into one building. The GSC became operational in July 2003, using a 10-digit telephone number (407.836.3111). The call center began to handle calls for animal services, code enforcement, roads & drainage, traffic engineering, and zoning departments. It had taken three years from conceptualization to this point of adoption.

The new approach placed the focus on centralizing contact points into one central location to reduce the cost of maintaining so many different databases and technology platforms, while still providing citizens with efficient and effective services. An external

consulting firm, the Technology Research Consulting Inc., was brought in January 2004, to look at the possibility of consolidation of other county services into the call center. The new approach undertaken by the GSC can be identified as part of the process of goal clarity that Garson (2006) identifies in aiding successful technology adoption. The consultant's report identified seventeen other agencies whose call center functions could be consolidated into the GSC. For an agency to be considered for consolidation that agency had to be providing a service to citizens. The other considerations to take note of were: the consolidation should benefit the county, the call center would be able to handle the generated call volume, there was adequate staffing to handle the potential call volume, the staff could handle the increased knowledge base needed, the actual cost of merging an existing agency's database with that of the GSC, and finally, the adequacy of the physical space to put new staff members for the department. This phased approach is identified by Garson (2006) as an important factor in successful adoption of technology.

The consulting company submitted its report in 2004 for the County Commissioners to make a final decision on moving forward with the consolidation of city services into one access point. The consultant's report recommended additional funding from the County Commissioners to expand the physical space and acquire new technology, but the commissioners denied the funding request. The denial of request for further funding would normally signal that it was the end of the road for the GSC and the future of the 311 call center for Orange County. Lack of funding is often a key reason for why technology based projects fail (Zakareya and Irani, 2005; Garson, 2006). During the consultation phase the project was still considered a pilot project; the implementation up to this point had been slow. Even though the GSC was taking calls, there was not a lot of

public information about it. The events of the 2004 Atlantic Hurricane Season changed the scenario drastically.

In August and September 2004 three hurricanes hit central Florida: Hurricane Charley on August 13; Hurricane Frances on September 5; and Hurricane Jeanne on September 26. Central Floridians were not prepared for the major impacts that these three storms would cumulatively have on their lives. Hurricane Charley was a category 4 storm with winds estimated at 145 mph, Hurricane Frances was a slow moving and large category 2 storm at estimated wind speeds of 105 mph, and Hurricane Jeanne was a Category 3 storm with estimated wind speeds of 115 mph. The County's 911 emergency system was overwhelmed with calls when Hurricane Charley hit. It was not predicted to be an intense storm. It underwent rapid intensification just before it made land fall on the west coast of Florida at Punta Gorda, when it went up from a Category 2 to a Category 4 hurricane.

During this time, since the 911 service came under enormous pressure, Marilyn Ward suggested to the County Administrator to utilize the GSC as an additional resource center for citizens to call for non-emergency information. After receiving the go ahead from the Administrator, the GSC went from having a staff of 14 individuals to that of 75 call takers. Many call takers were volunteers trained on the fly. Several press conferences were held advertising the GSC as a resource to call for information on shelters, ice, water, roofing supplies, and any available disaster assistance required by citizens. For the next several weeks, as central Florida dealt with the effects of three hurricanes the GSC became the life-line for many Orange County residents. The number was continuously advertised whenever possible. It was during this time that the County Commissioners

took ownership of the GSC because it was such a success during this time of disaster. Garson (2006) argues that turbulent environments could lead to the failure of technology based projects. If leaders are not adequately equipped to deal with rapid change management, are not mobilization oriented, are not partnership oriented and are not flexible in their approach, the projects could fail. It can be argued that in the case of Orange County's GSC, the right leadership was in place at the right time despite the challenges. The hurricane disaster events became an opportunity for the GSC to re-assert its existence as a useful public resource.

Before the hurricanes, there was a planned approach to gradually phase in various departments into the call center over time based on available funding and resources. Because of the hurricanes, several departments that were planned to be included at a later date were brought on board during the immediate aftermath of the hurricanes. For example, public works was brought on board right away after the hurricanes because the agency's call center could not handle the increased volume of calls that were flooding its system. The GSC was able to take on the additional calls because they already had the infrastructure and technology in place. Despite the success of this rapid integration of several services immediately after the hurricanes, it was later decided that the GSC would continue to gradually add and integrate services based on available resources and realistic time frames. Phased implementation is a key factor for success in technology adoptions (Garson 2006). This phased approach makes implementation more manageable based on available resources.

One major point that should be noted about the GSC is that it was implemented with existing resources that the County already had along with the monies received from

the federal government through the COPS. Most of the original staff of the GSC had similar positions in other agencies. As GSC took on the call center responsibilities of other agencies, in many instances, they also the GSC absorbed the agency's call center staff as well. No new positions were created. In fact, the GSC asked for any vacant positions not filled in other agencies to be transferred over to them. In several instances, agencies that witnessed a reduction in their resources approached the GSC to take their calls for them. Two such examples are the Parks and Recreations department and Neighborhood services. But the main focus of the GSC has been to take on agencies in a gradual manner based on available resources and funding.

The GSC started out with a traditional 10 digit number 407.836.3111 but eventually adopted the 311 number officially in June 2005. It can be argued that the success of the GSC in becoming such an integral part of Orange County government has been mainly because of the major role it played during the 2004 hurricane season. The GSC is seen as an integral part of the County's emergency operations protocol. Technology is more likely to be adopted if it is integrated into an organization's long term, strategic planning (Garson, 2006). The GSC 311 call center initially started out as a solution to alleviate the burden on the 911 emergency systems but has evolved into a service that aims to provide the citizens of Orange County with continuous access to efficient and effective government services.

Case Study of Miami-Dade County, Florida

Miami-Dade 311 call center was chosen because to date it is the only multi-jurisdiction call center in the nation and its process of adoption is one of the longest,

starting from 1998. The call center takes not only service calls for residents of Miami-Dade County on the whole but also service calls specific to the residents of the City of Miami. The call center also serves the 34 incorporated cities in the county. Miami-Dade County is located in the southeastern tip of the state of Florida. The county has a population of 2,617,176 people. The county has a land area of 1,897.72 square miles with a population density of 1,315.5 people per square mile. It should be noted that one third of Miami-Dade County encompasses parts of Everglades National Park, so the inhabited population density is higher than that stated above. In terms of population, Miami-Dade county is the 8th largest county in the United States and the largest county in the state of Florida. Like Orange County, Florida, Miami-Dade County is one of the few counties within the United States that offers 311 call center services at the county level. One of the challenges of offering 311 call center services at that level is the fact that Miami-Dade County has to serve the 34 incorporated municipalities that have a combined population of approximately 1,280,878 people and over 1 million people residing in unincorporated Miami-Dade.

Figure 4.3: Miami-Dade County, Florida

Political Structure

Miami-Dade County has home rule powers, which implies that the county has all powers of self-government as long as they are consistent with the Constitution or State law of Florida (Jewett, Florida County Government Guide). In January 23, 2007, the County Charter was amended to create a Strong Mayor form of Government. The position of Mayor is a four year term that is limited to two terms in office. Elections are held county wide. The legislative form of government consists of a thirteen member County Commission Board that is elected from single member districts. Commissioners can serve up to two consecutive four-year terms. The Mayor has veto power over any decision of the Board County Commissioners, if the decision is not approved by a two thirds majority (Miami-Dade County, 2013)

Miami-Dade County, Florida operates under a two-tiered or two-level type of government since 1957. The County has thirty-four municipalities within its boundaries as well as unincorporated areas. The County operates on two levels. The first level is as an entity that has specific broad powers over the entire county including the municipal areas. The other level provides city like services to certain municipalities as well as to the unincorporated portions of Miami-Dade County through inter-local agreements. Just over forty percent of the population lives in unincorporated areas. (Miami-Dade County, 2013)

Economic context

Miami-Dade County is part of the sixth largest MSA in the United States, namely the Miami-Fort Lauderdale-West Palm Beach MSA, which encompasses the tri-county areas of Miami-Dade County, Broward County and Palm Beach County (Broward

County Planning Services Division). The top five industries in Miami-Dade County are: Professional, Scientific, and technical services (15.6%); Retail trade (13.4%); Wholesale trade (11.8%); Health care and social assistance (11.7%); and other services excluding public administration (7.3%). The average weekly wage of a worker in Miami-Dade County was $914 (Bureau of Labor Statistics, 2014) and unemployment rate was 8.1 percent. The average median household income of Miami-Dade County is $43,100. Nearly 20 percent of the population live below the poverty line (US Census Bureau, 2014).

Social context

Miami-Dade County is the largest county in the State of Florida according to population estimates. Though not considered a border state in the traditional sense of the term as a land border (like the states of California, Texas and Arizona), Florida is a state that does have a large influx of first time migrants to the United States. This can be seen in the percentage of foreign born persons living in Miami-Dade County: fifty-one percent are foreign born in the county, compared to the state' average of nineteen percent. Miami-Dade is the only county in the country with majority foreign-born population. Seventy-two percent of individuals living in Miami-Dade County speak another language other than English at home. The racial makeup of the county is seventy-eight percent White, nineteen percent Black and one percent Asian. The total Hispanic population is estimated at sixty-five percent. The Hispanic population is majority of Cuban origin, which has dominated the local political landscape over the years. The Blacks include the

Caribbean population, who migrated from the Caribbean islands. The non-Hispanic White population is estimated at fifteen percent (US Census Bureau).

Miami-Dade County 311

Miami-Dade County's non-emergency 311 call center initially began as an avenue to reduce the number of non-emergency calls being received by the County's 911 emergency number. The FCC made the number available for any government entity as a non-emergency number in 1996. There was some initial discussion among County officials in 1998 about the possibility of utilizing the 311 number. Unbeknownst to county officials at the time, the City of Miami, which is located within Miami-Dade County had already requested and secured the license for the number for themselves. In 1999 under the initiative and sponsorship of Miami-Dade Commissioner Dennis Moss, 311 was brought back onto the table for discussion. Around 2001, a working group was put together by George Burgess, the County Manager, to look at the feasibility of implementing a 311 non-emergency call center. Another key official who was instrumental in backing the implementation of a 311 call center was then City of Miami Managaer Carlos Gimenez, who would subsequently be elected to the Miami-Dade County Commission and then become the Mayor of Miami-Dade County. From the very beginning, Miami-Dade 311 had several key individuals both elected and non-elected officials championing its cause (Mercer and Philips 1981; Garson 2006). It had top management support from the initial conceptualization of the project (Garson 2006).

Miami-Dade County started off with a feasibility study which is identified by Garson (2006) as an important step in any technology-based project. Rogers (1983) also

identifies this as an important step stating that an evaluation is needed in order to reduce uncertainty around adopting an innovation. During the time that the feasibility study was being conducted it was discovered that the 311 number had already been requested by the City of Miami. From an efficiency and service delivery standpoint it was not the best possible scenario. It would have meant that the County could only take calls from the rest of Miami-Dade County but not from the City of Miami which is located in Miami-Dade County. Negotiations were undertaken between the two entities. In the final agreement, Miami-Dade County agreed to take the calls and service requests of the City of Miami residents, while being able to utilize the 311 number in all areas of Miami-Dade County. From a cost perspective, the City of Miami did not have the funding and infrastructure in place to set up their own 311 non-emergency call center. So, by leveraging the number they were able to negotiate a 99 year inter-local agreement for the Miami-Dade County to take their 311 calls. Due to this agreement Miami-Dade 311 call center is considered the only multi-jurisdictional 311 call center in the nation.

By 2004, the main stakeholders in the 311 call center project were Commissioner Dennis Moss, County Manager George Burgess, Chief Information Officer Judy Zito, Business Operations Executive Champion Becky Jo Glover and Randy Witt (former Chief Information Officer). These were the main stakeholders around the time of the soft launch of 311 in November 2004. The approach in bringing together 311 is described as a blended approach involving both elected officials and county administrators. The blended approach is a good example of Rogers (1983) collective innovation decision approach where the decision to adopt an innovation is made by consensus. Commissioner Dennis Moss had the vision that there needed to be one central point of contact; one single

number to make it easier for citizens to contact their local government. The 311 call center would be a call center that would try to resolve citizens' questions and concerns with one phone call; first call resolution. Citizens would be able to receive information and also place service requests without the need to transfer them to another department.

One major barrier in the implementation process of Miami-Dade's 311 call center was the initial resistance from agencies and departments within the County. Fountain (2001) states that for new technology to be enacted there has to be a change in an organizations attitudes and perceptions. There also needs to be a change in an organizations culture (Rogers 1983, Garson 2006). The 311 officials were met with resistance, with such phrases as "you can't do it like us", "our business is too different", "there is no way you can do what we do", "you are going to end up transferring the call", "you are not going to save any money." One way around this resistance was a directive from the County Manager George Burgess to departments and agencies to cooperate fully. At first one might think this is just like the power play of Mayor Bloomberg in New York City where departments had no choice but to adopt NYC 311. In Miami-Dade it was a little different. The County Manager was not mandating that departments should adopt 311 right away but that they at least cooperate and examine what 311 had to offer to their departments. Despite continued resistance and grumbling county agencies and departments had to cooperate.

Even though the 311 team had the backing of the County Manager to move forward with the implementation process, the team leaders still took a more communicative and gradual approach. Communication is often cited as playing a very important role in technology adoption (Rogers, 1983). In the case of Miami-Dade 311,

communication played a key factor in overcoming organizational resistance. It was important for the team leaders that everyone affected by the 311 call center understand what it was about and what the County was trying to do with it. After meeting with most of the department managers and assistant directors within Miami-Dade County, Judy Zito would target those individuals and departments who were the most receptive to the idea of 311. The initial set of departments that made the decision to utilize the 311 call center to take their calls and service requests became advocates for the service to other county agencies and departments. The using of an initial set of departments as advocates of the 311 call center highlights a point made in a 2001 GAO report that states, "Success breeds success…early phases deliver demonstrable successes that motivate stakeholders in later phases" (Garson, 2006). The approach utilized by Miami-Dade County can also be considered a phased implementation approach (Garson, 2006).

One area of concern for some of the county departments was the increased accountability that the 311 call center would bring via the tracking of the service requests. Such items as the number of pot holes filled, the number of trees trimmed, the number of bulk pick-ups scheduled, etc. would be available from the 311 call center database. The 311 team adeptly did not emphasize the level of accountability 311 would bring; rather, it emphasized the way 311 would make their departmental processes easier. For, the manual processes of the departments could now be automated for their ease and convenience through the CRM. By highlighting the benefits of the system to the stakeholders, the stakeholders were motivated to adopt the technology (Garson, 2006).

The 311 team also made the promise to the departments that their data would not be reported during the first six months of the departments utilizing the 311 call center.

Departments would have the time to look at their business and service request process and work out any problems or identify areas that needed any improvement. By giving the departments the time they needed it allowed the technology to be adapted to real world scenarios that may not be predicted and fostered an environment of collaboration between the 311 call center team and the departments.

Garson (2006) and Rogers (1983) both identify a phased approach as necessary for successful technology adoption. They both also identify adequate budgeting of time based on available resources as being very important. Rather than attempting to bring all departments on at once to Miami-Dade 311, departments were included based on available budget and resources. The 311 team did not want to grow too fast too quickly and ultimately fail; this approach may have been a result of the high number of skeptics who did not think the 311 call center would be successful. The main reason for why county departments may not be utilizing the 311 call center for their information calls and service requests is because they are being added in a phased approach as determined by the 311 call center team.

One major hurdle that had to be overcome for the 311 team was the availability of the technology to do what they wanted to do. They wanted a call center that would not only take service requests but would also provide information to the public. Again their approach was to have a call center where the goal would be one call resolution with as few calls transferred back to the departments as possible. At that point in time, there was only one vendor that had such an experience with the city of Chicago's 311 call center that primarily took service requests. The team at Miami-Dade needed an application that could handle an integrated portal and knowledge base system as well as a contact

management system. The decision was made to go with Motorola CRM solution (Shellong, 2005). Ultimately, however, the Miami-Dade County built its own CRM solution that caters to the dual aspects of information needs and service requests.

Adequate budgeting and finance are many times the key factors for successful adoption and implementation on technology-based projects (Moon and Norris 2005; GAO, 1995a, 1995b; ed. Garson 2005; Garson 2006). The 311 call center was initially funded through a Capital Asset Acquisition Bond that provided 16.2 million dollars for the initial start-up but the team had to be creative in funding employees for the 311 call center. At first county departments transferred their own employees over to the call center. The main problem with the transfer was that the departments used the opportunity to transfer the staff who they did not want in their own departments. Consequently, there was difficulty initially in getting the right staff for what was needed to be done at the call center. Eventually Judy Zito requested that she not receive any more employees via transfer but she would rather have the vacancies given to her to fill. The county's Office of Strategic Planning and Budgeting eventually came up with a formula to determine how each department would contribute to the funding of the 311 call center. Through this formula the 311 call center receives 92 percent of its funding through the County general fund.

In a similar scenario to what had happened with the Orange County 311 call center, the Miami-Dade County call center was put to the test during its soft launch in 2004 and soon after its official launch in September 2005. Hurricanes Charley, Frances, Ivan and Jeanne had all hit the Florida Peninsula during the 2004 hurricane season. During the 2005 hurricane season, Tropical storm Arlene, Hurricane Dennis, Hurricanes

Katrina, Tropical storm Tammy and Hurricane Wilma hit the Florida Peninsula, with Hurricanes Katrina and Wilma directly affecting Miami-Dade County. The Atlantic hurricane season was very active during both these years. The active hurricane seasons helped in the marketing of the Miami-Dade 311 call center as it was the number that citizens were told to call for information and help. The call center is also marketed through word of mouth, and the county has been gradually removing department numbers in the blue pages of phone books and replacing them with the 311 number as a point of contact. In 2012, the County Commissioners started the process of a feasibility study to determine the feasibility and cost savings of placing all the county's remaining departments into the 311 call center.

Case Study of Columbia, South Carolina

Political Structure

Columbia is the second planned city in the United States. The city was formed on March 22, 1786 as the new State capital of the state of South Carolina. In 1854 the city was chartered and had it first mayor and six aldermen (http://www.columbiasc.net/about-columbia). Columbia follows a Council-Manager form of government where the City Council makes and enact laws. The Mayor has the veto power over any rules or ordinances passed by the City Council. The City Council is made up of the Mayor, four elected council members from single member districts and two at-large council members; there are no term limits (http://www.columbiasc.net/city-council/council-profiles). Elections are held every four years. The majority of the city is in the Richland County with a portion of the city extending into Lexington County.

Economic context

Columbia is the second most populous city in the state of South Carolina with a population of approximately 133, 358 (US Census Bureau, 2010). Columbia is part of the MSA Columbia and is geographically located almost in the center of the state of South Carolina. The central location of Columbia places it at a mid-point between the states' high and low countries. The five top industries in Columbia are: Educational Services (14.33%); Health care and Social Assistance (13.39%); Retail (11.2%); Accommodations and Food Services (11.15%) and Professional, Scientific, and technical services (7.12%). The average weekly wage is $802. People living below the poverty line is at twenty-four percent (US Census Bureau, 2014).

Social context

The racial composition of the population is as follows: White fifty-one percent, Black forty-two percent, Asian two percent, and two percent identify as two or more races. The Hispanic population is four percent with the White alone (non-Hispanic) population at fifty percent. The median house hold income is $41,344 (US Census Bureau). The unemployment rate is at 6.7 percent (US Bureau of Labor Statistics). Of all the cities and counties in the study, Columbia has the lowest Hispanic population.

Figure 4.4: City of Columbia, South Carolina

Source: (https://www.google.com/maps/place/Columbia,+SC,+USA/@34.0375089,-80.937565,11z/data=!3m1!4b1!4m2!3m1!1s0x88f8a5697931d1e3:0xf32808f4b379fa96)

The city of Columbia was chosen for this study because it is one of the smaller cities within the United States that chose to adopt a 311 call center. It is also special in being among that first wave of cities and counties that began adopting 311 call centers between 2002 and 2004. The city of Columbia, South Carolina's 311 call center was originally initiated by the then Director of 911 services, Judy Spell in July 2002. Examination of daily logs and reports of the types of calls the 911 system was receiving, she started looking for ways to redirect non-emergency calls from the 911 service. Offering a non-emergency number for citizens to call would give citizens a central number they could call without the need for looking in the phonebook, while also freeing the pressure on the 911 system. It would also provide citizens with information about all the departments in Richland County and Lexington County. The 911 Director made a presentation to the city council members and Mayor about the possible benefits of adopting a 311 call center. The fact that the initiative was coming from the Director of 911 services and the emphasis was placed on the need to reduce the non-emergency call volume to the city's 911 emergency service could have been the major factor for the 311

project to receive approval from elected officials. Spell was the key driving factor behind the Columbia 311. In Mercer and Philips (1981) scheme, Spell would be considered a technology champion.

Once approval was received, the 911 Director then visited call centers in Arizona, Dallas, Texas, and the city of Chicago to look at their call centers, not all of which were necessarily 311 call centers. Rogers (1983) identifies this step as an avenue to reduce uncertainty about an innovation's expected and unexpected consequences. After visiting various call centers and reporting on her findings the project was giving the final go ahead from elected officials. The interesting aspect about Columbia 311 and Judy Spell is that she would be considered in Rogers (1983) framework as an opinion leader, partly because Columbia is a small city,. An opinion leader is an individual who has some of influence on the attitudes and decision of others based on technical competence, social accessibility and conformity to the city's norms (Rogers, 1983). Since there was hardly any resistance from the City Council, one could infer that perhaps based on her years of experience with the city and her position as Director of Columbia 911 services, Judy Spell carried the required clout and influence. It could also be theorized that due to the small size of the city of Columbia, Columbia 311 did not have the layers of bureaucracy to contend with that other larger entities have had to do.

Despite receiving approval from elected officials to go ahead with a centralized call center, there was still resistance from various departments within the city. The departments did not want to give up control of their information and scheduling services. One possible reason for the resistance was the fact that the technology that would be utilized in the call center would be able to initiate and track service requests. There would

be the possibility of increased accountability. Even though elected officials were open to change, individuals within the organization were not. At this point there was very little buy-in by stakeholders within the organization, a key factor needed for successful technology adoption (Garson, 2006). Unlike Miami-Dade County there was no directive from a top administrative or elected leader for individuals to corporate.

Upon approval from the city council to go ahead with a 311 call center, a new coordinator for the 311 call center, Ms. Senorita Sullivan, was hired. Even though the initial concept for Columbia 311 came from Judy Spell, it was really Ms. Sullivan who can be called as the true technology champion (Mercer and Philips, 1981). Ms. Sullivan handled the initial resistance by dealing with each department on an individual basis. She maintained channels of communication which Rogers (1983) identifies as successful for innovation adoption. She started by asking each department for their most frequently asked questions and worked with them to update that information first. She found an area of common ground with each department to work with. Garson (2006) theorizes that if individuals within an organization feel that the new technology will retain existing organizational culture and norms then there will be less resistance to technology. Ms. Sullivan then took the initiative to place the 311 number as the official contact number for most departments while she was updating their contact information in the city's computer system and on the city websites. Ms. Sullivan's strong personality as an individual has played a major role for the advancement of the 311 call center. One might even call her a charismatic leader who was able to persuade the initial doubters to change their course.

One approach that has been utilized to increase awareness of Columbia's 311 call center has been to utilize a community approach. The city of Columbia frequently holds neighborhood meetings throughout its various communities. The purpose of these meetings is to advise the general public about services available to them. Citizens are then informed that there is one central number they can call to complain or request services any time they would like. Other community events where the call center is promoted is at community fairs, school district meetings, and phone hotlines. Again Ms. Sullivan seems to have played a very important role in promoting the 311 call center at these events.

The 311 call center has not been immune to budget constraints and dwindling available funds. The 311 call center staff was cut from an original staff of 7 full-time call takers to only 2 call takers. Adequate budgeting is often a major factor why technology based projects fail (Garson, 2006). Then, in July 2012, it was announced by the city that the existing 311 call center was going to be rolled into the existing call center of the Department of Water and Sewer. City officials realized that the majority of calls that the 311 call center was taking were mainly for water and sewer issues. The department of water and sewer had an existing call center that employed a larger number of staff, and who handled a larger call volume. The 311 call center was only handling 1,200 calls a year whereas the water and sewer department call center was handling 205,000 calls a year. The two call centers were combined into one consolidated call center and rebranded as the 'Customer Care Center' utilizing both a traditional 10 digit number for citizens to call as well as the existing 311 number. The two full-time 311 call center employees were incorporated into the work force of the new call center which has a total of 22 employees.

With the new consolidation of the two call centers the city of Columbia is now able to offer a call center that operates 7 days a week, 24 hours a day. If the consolidation of the two call centers had not happened, there is high degree of likelihood that the former 311 call center may have been closed over time.

Case Study of Denver, Colorado

Political Structure

Denver is a consolidated city-county government. It has a strong Mayor-weak Council form of government. It has an elected mayor and a thirteen member council made up of eleven elected members from single member districts and two members elected at large. The city council members are all elected at the same time every four years. The mayor is elected every four years to a four year term. The Mayor approves or vetoes any ordinances or resolutions passed by the city council. The city council makes and passes laws; the mayor can only suggest laws. The city council can veto a decision made by the mayor by a nine out of thirteen vote. The mayor appoints members to the various boards and commissions that oversee many of the city's departments and agencies (htt://www.denvergov.org). Denver is also the state capital for the state of Colorado. From its establishment as a city in 1861, Denver's continued progress and prosperity has been attributed to its long history of strong effective mayors.

Economic context

Denver is uniquely positioned because of its geographic location in the center of the country. It is considered a gate way to the American west (Forbes, 2013). There are many federal agencies that have their regional offices in the Denver metropolitan area.

The top five industries in Denver based on employment are: Healthcare and Social Assistance (13.08%); Accommodations and Food Service (12.02%); Administrative Support and Waste Management (9.71%); Professional, Scientific, and Technical Services (9.63%); and Retail Trade (6.72%). The unemployment rate for the Denver area for 2014 was 3.7 percent. The average weekly wage in the Denver area is $1,186 (Bureau of Labor Statistics). The city of Denver is part of the MSA of the Denver-Aurora-Lakewood area.

Social context

Denver has a total population of 649,495 making it the largest city in the state of Colorado. Denver has a racial makeup of eighty percent White, ten percent Black, four percent Asian and two percent Native American. The total Hispanic population is at thirty-one percent with the White non-Hispanic population at fifty-three percent (US Census Bureau, 2010). The average median household income in Denver is $50,313. Nineteen percent of the population lives below the poverty level (US Census Bureau).

Figure 4.5: City of Denver, Colorado

Denver 311 Call Center

The initiative for the city of Denver's 311 call center first came about when John Hickenlooper was elected as the Mayor of Denver in 2003. He had first worked as a geologist before opening his own restaurant in down town Denver in the late 1980's. After opening his restaurant, Hickenlooper became active in local civic affairs. Mayor Hickenlooper won public office the first time he ran for mayor. When he was elected, one of the main five goals he set for his first term was to improve the service as well as the ability of the citizens to communicate with the city. His background in the restaurant business gave him a full understanding of how important good customer service is. He was familiar with the concept of 311 call centers but at the time there were still not many 311 government call centers in the country. He decided to explore the 311 as an avenue for further development. Thus, Denver 311 had its change agent and technology champion in the form of Mayor Hickenlooper.

Before elucidating further on Denver 311, the role of Denver's first Chief Information Officer (CIO) Michael Locatis needs to be acknowledged. Though the initiative for Denver 311 came from Mayor Hickenlooper the responsibility for getting the project up and running fell on his executive staff which included his appointees and cabinet members. Michael Locatis was one such appointee as the CIO. He was recruited by Mayor Hickenlooper from the private sector. Before coming to work for the city of Denver, he had worked for Time Warner as Senior Director of Enterprise Information Technology. Besides tackling the implementation of Denver 311, Michael Locatis and his team consolidated over twenty disparate IT departments with over 200 employees into one single central IT department called the Technology Services. Denver 311 also fell on

his lap to manage. He was thus another able technology champion of Denver 311 (http://www.oracle.com/us/corporate/profit/archives/features/p36denver-5-143824.html).

Even though the City Council approved the setting up of the 311 service and they provided the required funding to start it, the council had reservations about the 311. One of council's main concerns was the fact that in the past citizens could contact their respective council members personally to deal with. Council members felt that this personal one-on-one approach would be lost with Denver 311. The director of Denver 311 dealt with this concern by showing each council member the various issues that citizens from their districts had called them about and the volume of calls.

In 2004, a committee was put together to look at the feasibility of the 311 based on a set of questions that included the following: What would a 311 call center look like? How much would it cost? What would be the benefits? What would be the efficiencies? Can the city afford it? The committee studied the feasibility of the project for nearly a year. Conducting a needs assessment before any major technology project is identified by Garson (2006) as a precursor to successful technology adoption. In March 2005, the committee hired a project manager to come in and monitor the project from start to finish. Hiring a professional project manager is also identified by Garson (2006) as a factor that contributes to successful technology adoption. The committee conducted on-site visits to cities that already had a 311 system in place. The committee had no idea what to expect so they wanted to take the time to learn from the experiences of other cities. This would be described by Rogers (1983) as the observability of an innovation. If the results of a technology are visible to others then they are more likely to adopt it.

An unannounced soft launch was scheduled for February 2006. The general public did not know the exact date of launch but they knew from press releases that a 311 system was coming. Rogers (1983) describes this as the trialability of an innovation. When an innovation can be experimented on or tried out, there are higher chances for the innovation to be adopted more quickly. Garson (2006) also insists that successful technology projects must undergo a testing and piloting phase. The Mayor wanted the formal launch of the 311 call center by July 2006 as that was the end of his first term in office. The soft launch test-piloted the system with five different partner agencies. The official launch went ahead as scheduled for July 2006.

When the soft launch of Denver 311 occurred there were only five or six partner agencies at the time; by the time of the official launch five months later there were a total of fourteen more agencies/divisions added. When agencies/divisions partnered with Denver 311, their ten digit number in the phone book was merged with the 311 number. By the end of 2010, eight more agencies were scheduled to be added. During peak times, such as a storm event or elections, an auxiliary center is opened and short term workers are hired to cover the extra call volume.

The Director of Denver 311 allayed the initial hesitance of agencies partnering with Denver 311 by presenting a business model that showed actual examples and statistics on how Denver 311 could increase efficiency and cost savings to the agency. When the possible benefits are made clear to stakeholders they are more likely to adopt the technology (Garson, 2006). Some agencies first felt that Denver 311 was a threat to them, but once this was dealt with they were usually willing to give it a try. Denver 311 first gave a full scale business analysis and projection for every agency they partnered

with. This process usually takes four to twelve weeks and involves first showing the agency how they are currently operating their agencies and then they are presented with a potential business illustration of how the operations would be after they partner with Denver 311.

By conducting a needs assessment for each individual partner agency the Denver 311 team increased the stakeholder motivation and buy-in (Garson, 2006). There is usually still some hesitance as the agencies have their own internal processes that they used to keep track of their delivery of services but agencies eventually chose to join Denver 311 at the end of this process. When an agency decided to partner with Denver 311, the agencies needed to commit to keeping their website content up to date, provide information on current events, and let Denver 311 know of any kind of media releases a few days prior to actual release to the media. In turn, Denver 311 would to take their calls in a timely manner.

The Denver 311 call center did not have any funds allocated for marketing purposes; they relied on local media coverage to do the marketing for them. Then, in December 2006 the city of Denver experienced two major snow storms. The city capitalized on these two events to get the word out via the media about Denver 311. Citizens were encouraged via the local media that if they had any concerns relating to the snow storm they should call Denver 311.

Even though the original initiative for Denver 311 came from Mayor Hickenlooper and he wanted it in place by the end of his first term in office, one cannot truly say that Denver 311 followed an authority innovation decision process. Denver 311 followed more of a collective innovation decision process where internal agencies were

still given the freedom whether they wanted to utilize Denver 311 or not. It was up to the Denver 311 team to present a business case as to why the agencies should adopt it. The successful adoption of Denver 311 can be contributed to several different factors that came together to contribute to its successful adoption.

Recurrent themes in the Case Studies

If one looks at the adoption process in the case studies above, there are several recurring themes that are in line with current literature on technology adoption within the public sector. These themes include: presence of a change agent and technology champion (Mercer and Philips, 1981), the innovation-decision process (Rogers, 1983), organizational structure and culture (Fountain 2001, Garson 2006), organizational support and buy in (Garson, 2006), and re-engineering of business process (Reddick 2009). The various themes cannot be explained and predicted solely by one or two theories but by a combination of elements from existing theories.

Mercer and Philips (1981) classify technology champions as falling into four categories: a technically oriented elected official; a politically aware local technical expert; an individual from a private vendor; or an individual from a public sector agency with technical knowledge. In the case of New York City and the City of Denver Colorado, the imperative for a city wide 311 government call center came from newly elected political leaders. In the case of New York City, it was Mayor Michael Bloomberg and for the City of Denver, Colorado, it was Mayor Hickenlooper. As soon as both mayors were elected into office they started initiatives to adopt the 311 call center.

Rogers (1983) innovation decision process includes a social systems process. The social systems process is broken down into three distinct innovation decision processes: optional innovation decision process (decision made by one single person); collective innovation decision process (decision made by consensus among members); and authority innovation decision (decision made by a few elite who possess power). In the case of Miami-Dade County the initiative came from a combination of both an elected official and senior administrative staff within the County; County Commissioner Randy Moss as well as then County Manager George Burgess and Senior County Administrators Judy Zito, Becky Jo Glover and Randy Witt. This is in line with Rogers (1983) collective innovative decision process. Orange County, Florida and the City of Columbia, South Carolina are also other examples of this approach. New York City, New York is a good example of the optional innovation decision process.

For both Orange County, Florida and the City of Columbia, South Carolina the initiative for a 311 government call center came about from the need of both entities to reduce the number of non-emergency calls that were coming through to 911. For Orange County, Florida a partnership was formed with County administrators and the Orange County's Sheriff Department to tackle this problem. For the City of Columbia, the initiative came directly from the city's 911 Director Judy Spell. Mercer and Philip (1981) theorized that for there to be successful adoption of technology the change agent had to have close proximity to the local government chief executive if they were not the chief executive themselves.

In all the cases with the exception of the City of New York, approval had to be sought from either the City Council or County Commission Boards made up of elected

officials. Even though the initiative for Denver 311 started with Mayor Hickenlooper approval still had to be sought through Denver's City Council. New York City was the only entity in this study, perhaps due to the strong mayor structure of its government, which had its 311 call center adopted due to a direct order from the Mayor.

New York City was the only city that had a directive from its Mayor to have a 311 call center up and running within a year. The directive from the Mayor of New York City was that all city departments were to be part of New York City 311 by the time of its official launch in one year. The one year directive from the Mayor basically made all city departments directly accountable to the Mayor's Office if they had not become part of NYC 311. Garson (2006) identifies this layer of accountability to the political layer as a major external factor to successful technology adoption. Rogers (1983) calls this approach the optional innovation decision process. The fast rate of adoption and implementation of New York 311 corroborates Rogers's belief that the fastest rate of adoption occurs through the optional innovation decision process.

Other entities took a more phased approach to having their 311 call centers accept calls. Though different from New York City, this phased approach towards technology adoption is identified by Garson (2006) as an internal factor that can lead to successful technology adoption. In the case of Miami-Dade County, Orange County and City of Denver each government department was approached separately and a case made why they should have their calls handled by a 311 call center. To date, the 311 call centers for all three entities do not take calls for all their departments. Miami-Dade County is currently conducting a feasibility study to determine if Miami-Dade 311 can handle

taking calls for all its departments. Orange County and the City of Denver have both taken the phased approach to adding departments gradually as well.

All the entities formed committees to see the adoption process though for their 311 call center. In all cases, the emphasis was placed on the importance of communication and keeping affected stake holders informed. Rogers (2003) identifies communication channels as a major element in the innovation process. Garson (2006) would identify this as participatory implementation and stakeholder motivation, another set of internal factors to successful technology adoption. It was recognized early on that stakeholders would have fears and concerns about the demands and accountability that a 311 call center would place on them. Stakeholders were allowed to voice their concerns and opinions about the necessity and feasibility of a 311 call center.

Population size did not appear to have much of an influence on whether an entity adopted a 311 government call center or not. Columbia, South Carolina had the smallest population size but it was one of the earlier adopters of a 311 government call center. The argument could be made though that a city or county with a larger population size would have more citizens requesting services, thus there would be a greater demand for services. A larger organization though may have a more complex organizational structure in place that may require a more collaborative approach in implementing a 311 government call center. One factor that has to be considered in smaller entities is the call volume; is there sufficient call volume to justify the expense of adopting a 311 government call center?

A recurring concern, no matter the size of the entity, was the increased scrutiny and accountability that the data captured by a 311 call center could bring. This new use of

technology demanded an upfront change in an organizations culture (Fountain, 2001; Garson, 2006). Information that would not normally be readily available to the public and most public officials would now be almost instantaneous in its accessibility. In the case of Miami-Dade County, stakeholders were reassured that whatever data was generated by the call center would not be made public to County Commissioners' and the public for the first six months.

In all cases a public/private partnership was established with a private technology/communications vendor to help with the technology component of the adoption process. The role of the private vendor varied depending on the existing resources, needs and requirements of each entity. In the case of New York City and Miami-Dade County, the 311 call center was placed under the responsibility of their respective technology departments. Even with internal technology personnel on staff, all entities recognized that the building of a 311 call center required some level of outside expertise. This partnership with outside vendors is identified by Garson (2006) as an important external factor contributing to successful implementation of IT projects.

An unexpected factor not found in the technology adoption literature that may have contributed (whether major or minor is still debatable) to each call center being further embraced by their respective entities is the unexpected weather events. In the case of Miami-Dade County and Orange County, during their soft launch periods 2004 into 2005, the State of Florida was hit with several hurricanes and tropical storms. In the case of Orange County they had to start taking calls from residents dealing with the after effects of two major hurricanes. The City of Denver during their soft launch period had to contend with two major snow storms. Weather in both events acted as a sort of catalyst,

speeding up the adoption process for both entities. Fountain (2001) makes reference to information technology as a type of catalyst that enables organizational change, “catalysts increase the rate at which a reaction takes place”. Weather events could be classified as a catalyst that helped to speed up the implementation process of the respective entities 311 government call center.

Funding is considered a major factor in the successful adoption of any technology based service (Garson, 2006). It is an important factor but it does not guarantee successful adoption in all cases. Each entity adopted various approaches to fund their 311 call center. In Miami-Dade County the 311 call center was funded initially through a Capital Asset Acquisition Bond that provided 16.2 million dollars for start-up. Future funding would come from the County’s general funds. Orange County’s initial funding came from a grant provided by the US Department of Justice’s *311* Technical Assistance for Start-ups program, future funding would come from the County’s general funds.

Another common theme throughout the adoption process, which can be considered as one of the most significant factors, is that of the commitment by most of the entities to change business process. Weerakkody and Dhillon (Reddick 2009) identify the need for reengineering of business process for more efficient delivery of service as a key factor in technology adoption. If cities and counties were going to make it easier for citizens to submit and track service requests via phone and internet it could not be business as usual. Citizens would now have the tools at their disposal to hold departments and agencies accountable for their response times to service request. Most of the jurisdictions with 311 made it mandatory for the departments to rework their business processes to be more efficient. These are the service level agreements.

Summary

In summary, the case studies of the five municipalities shed light on theories that are applicable in the adoption process of 311 government call centers. As discussed earlier in the chapter, no one theory can be used to predict or describe the adoption process. There are themes that are very consistently present during the adoption process and can be tied back to the current literature on technology adoption in the public sector. These themes are: presence of a change agent and technology champion (Mercer and Philips, 1981), the innovation-decision process (Rogers, 1983), organizational structure and culture (Fountain 2001, Garson 2006), organizational support and buy in, (Garson, 2006) and re-engineering of business process (Reddick 2009). The next chapter explores the significance of these themes through a quantitative approach to generalize the findings highlighted in this chapter.

Chapter 5. Adoption and Non-Adoption of 311 Call Centers

Introduction

311 government call centers are still considered a new type of government services as the majority of 311 government call centers have been adopted in the last fifteen years or less. The rate of adoption is still very low when compared to other technology based services such as online government websites. 311 government call centers provide a fast and efficient way for citizens to request services from their local government entities and to track their requests. There are approximately 300 cities and counties that have a 311 government call center in the United States. This rate of adoption is still very low when compared to the total number of cities and counties there are in the continental United States. To better understand and identify the challenges that go into adopting a 311 government call center a survey was administered to local authorities. The purpose of the survey is to determine the level of significance certain factors have on either the adoption or non-adoption of a 311 government call center in their jurisdiction.

This chapter is comprised of three sections. The first section presents an overall descriptive analysis of survey respondents. The analysis is further broken down into two categories, adopters of a 311 government call center and non-adopters of a 311 government call center. The second section of this chapter focuses on the non-adopters of 311 government call centers and presents the results of principal component analysis, a type of exploratory factor analysis. This type of analysis is appropriate as we are trying to determine if there are commonalities among a large group of factors that will allow them

to be grouped into smaller clusters. Usually a small group of factors from the larger group are responsible for most of the correlations or relationships in the entire group. The third section of the chapter examines the adopters of 311 government call centers and the results of simple correlations among the factors. Further statistical analysis of this group was limited as the number of adopters of 311 government call centers is very low.

Adopters and Non Adopters of 311 government call centers

This section presents a descriptive analysis of all the responses to the survey. There were 260 surveys that were completed both via online (84 surveys) and regular mail (176 surveys). This section looks at the demographic characteristics of the respondents by state, region, population, and government structure. A summary of all the responses by state are depicted in Table 5.1. The states with the highest response rates are California, Florida, Texas, Illinois and Indiana. These states were responsible for forty-three percent of the surveys received.

Table 5.1: Frequencies by State

State	**Frequency**	**Percentage**
California	40	15.38
Florida; Texas *(24 each)*	48	18.46
Illinois	15	5.76
Indiana	9	3.46
Massachusetts; Minnesota; New York; Ohio *(8 each)*	32	12.31
Michigan; Washington *(7 each)*	14	5.38
Arizona; Iowa; Missouri; North Carolina; Oregon; Tennessee; Virginia *(6 each)*	42	16.15
Kansas; Kentucky; South Carolina; Wisconsin *(5 each)*	20	7.69
Alabama; Connecticut; New Jersey; Utah *(4 each)*	16	6.15
Colorado; Idaho; Mississippi *(3 each)*	9	3.46
Georgia; Oklahoma; Pennsylvania; Rhode Island *(2 each)*	8	3.08
Louisiana; Maryland; Montana; Nevada; New Hampshire; New Mexico; South Dakota *(1 each)*	7	2.69
Total	**260**	**99.97**

Respondents were grouped by regions to determine distribution of respondents by region across the lower forty-eight states of the United States. Regions were defined based on criteria used by the US Census Bureau. The largest number of respondents (92) came from the South, followed by the West (70), then closely by the Mid-West (69), with the smallest number coming from the Northeast (29). Table 5.2 shows the frequencies by region and Figure 5.1 shows the percentages.

Figure 5.1: Percentages by Region

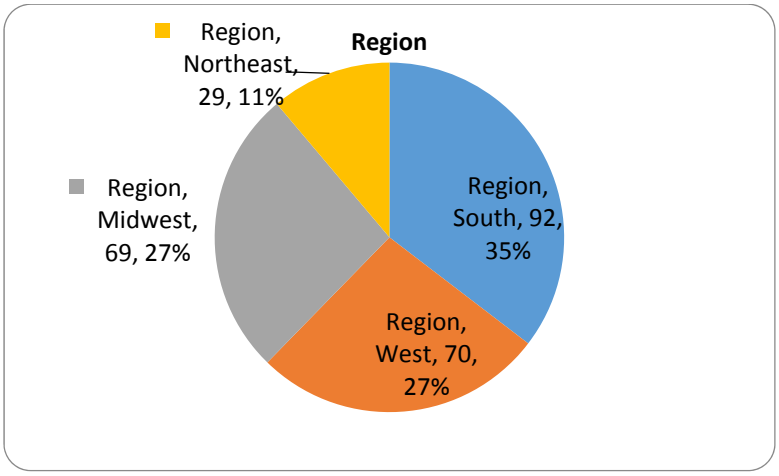


Table 5.2: Frequencies and percentages by Region

Regions	Frequency	Percentage
South	92	35.4
West	70	26.9
Midwest	69	26.5
Northeast	29	11.2
Total	**260**	**100**

Survey respondents were asked to identify the approximate population size of their city. The results from Table 5.3 show that cities with population size of approximately 99,999 and under had the largest number of respondents. Cities with population sizes of approximately 500,000 had the smallest number of respondents.

Figure 5.2 shows the overall percentage distribution based on population. There is a small difference in proportion by population where survey respondents are categorized by whether they are adopters and non adopters of 311 government call centers. In the population categories 250,000 – 499,999 and 500,000 and over, adopters make up a larger proportion of the category than non-adopters. This is shown in Figure 5.3.

Table 5.3: Frequency and percentage based on population

Population	Frequency	Percentage
99,999 and under	185	71.2
100,000-249,999	48	18.5
250,000 – 499,999	16	6.2
500,000 and over	11	4.2
Total	**260**	**100**

Figure 5.2: Percentages based on population

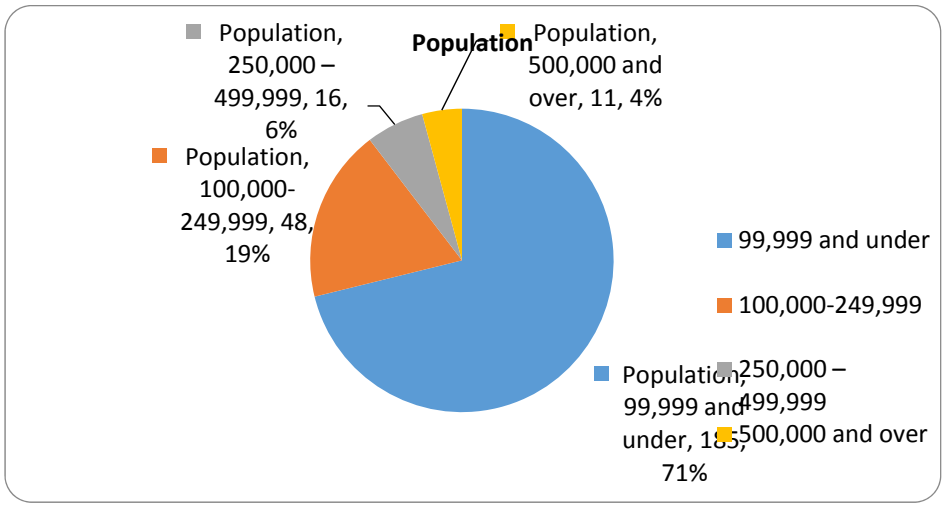
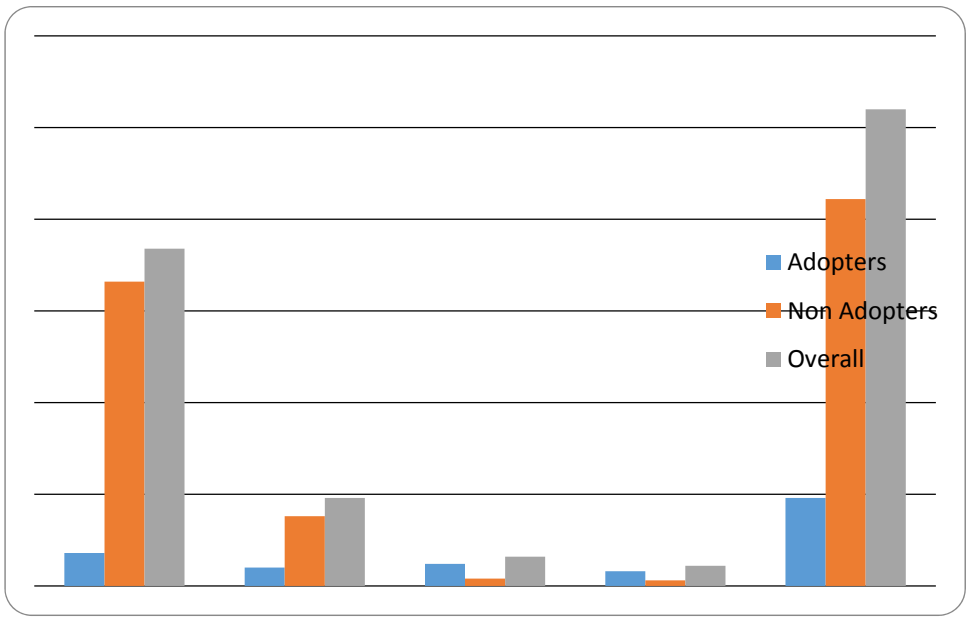


Table 5.4: Frequencies based on Population of Jurisdiction

Population of Jurisdiction	Adopters	Non Adopters	Overall
99,999 and under	18	166	184
100,000-249,999	10	38	48
250,000 – 499,999	12	4	16
500,000 and over	8	3	11
Total	**48**	**211**	**260**

Figure 5.3: Comparisons of 311 Adopters and Non-Adopters by Population



Survey respondents were asked to identify their jurisdiction's structure of government. Respondents had four options to choose from as well as the option to choose other if the options provided did not describe their jurisdictions structure of government. Table 5.5 shows that a Council-Manager structure of government had the greater proportion of respondents followed by a Mayor-Council form of government. The number of respondents quickly fell off for the other types of government structure.

Table 5.5: Frequencies based on Structure of Jurisdiction

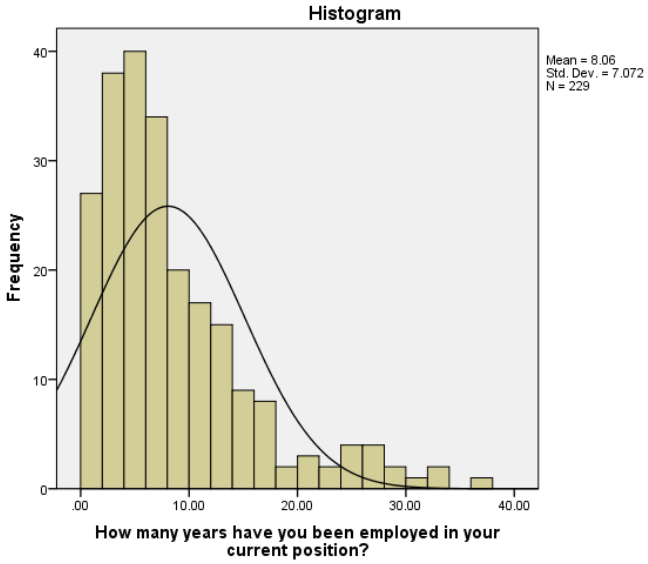
Structure of Jurisdiction	Frequency	Percentage
Mayor-Council	104	40.31
Council-Manager	142	55.04
Council-Administrator	4	1.55
Council-Elected Executive	1	.39
Other	7	2.71
Total	**258**	**100**

Survey respondents were asked to identify whether or not they were in a supervisory position and to indicate how many years of experience they had been employed in their current job. The majority of respondents indicated they were in a supervisory position as indicated by Table 5.6. Figure 5.4 shows the measures of central tendency and variability for the number of years individuals had been employed in their current position. It can be concluded that the majority of respondents were in supervisory positions with an average of eight years of experience on the job.

Table 5.6: Frequency and percentage of position

Type of Position	Frequency	Percent
Supervisory	203	85.7
Non-Supervisory	34	14.3
Total	237	100

Figure 5.4: Distribution of years of employment



In summary the majority of survey respondents comprised largely of individuals who were in supervisory positions, with the average number of years of experience in

that role being eight years. This is a good indication that the individuals answering the survey had in-depth knowledge of their organizations history and culture. The two main forms of government that most respondents described their jurisdictions as being were Council-Manager and Mayor-Council, with just a little over half being Council-Manager form of government. The majority of respondents were from cities with populations of 99,999 and under. The state that had the most survey responses was the state of California. The region with the most responses was the South.

Non-Adopters of 311 Government Call Centers

This section of looks at the survey responses from cities that have not adopted a 311 government call center. Overall survey responses were divided into two categories, adopters of 311 government call centers and non adopters. Out of the 260 survey responses received, 211 survey respondents indicated that they did not have a 311 government call center. In addition to the general demographic questions at the beginning and towards the end of the survey, survey questions were grouped around four major themes. They are technology champion, financial resources, political and administrative influences, and citizen satisfaction. Survey questions were categorized around a four point Likert scale.

The first part of the analysis involves percentage frequencies for each of the survey questions. The results are displayed in Table 5.7. Based on percentage frequencies respondents thought that the following variables were either very significant or significant in explaining why their local government did not have a 311 call center. No demand from citizens (31.0%), start up costs (40.5%), annual operating costs (42.1%),

and unavailability of funding (35.2%) were considered very significant. No obvious need for one (28.6%) was considered significant. It should be noted that the variable, local government strategic plan does not call for a 311 call center, had an almost equal distribution of responses across all four response types.

The second part of the analysis involves utilizing the statistical analysis method of principal component analysis utilizing oblimin rotation. In cases such as the present one, when the numbers of variables are moderate to large, rather than attempt to measure twenty different constructs, it is usually best to determine if there is "some variable reduction scheme that will indicate how the variables cluster or group together" (Stevens, 2002). In principal component analysis "linear combinations of the original variables (factors) are derived, and often a small number of these account for most of the variation or the pattern of correlations". (Stevens, 2002) By formulating a smaller number of variables, meaningful interpretation can occur.

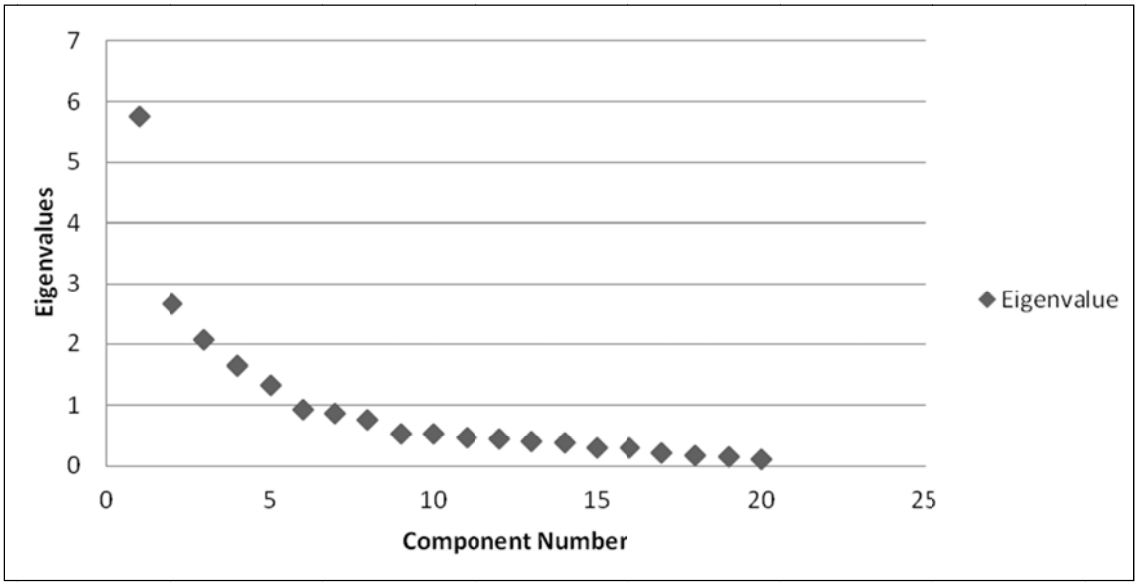
The 20 items representing explanations for why jurisdictions did not adopt a 311 program (Table 5.9) were subjected to a principal components analysis using SPSS Version 20. Prior to performing the principal component analysis, the suitability of the data was assessed. This was done by formulating a correlation matrix of all the variables. Inspection of the correlation matrix revealed the presence of many coefficients at 0.3 and above. There were approximately 90 correlations that were 0.3 and above, with all of them being significant at the 0.01 level (2 tailed). The Kaiser-Meyer-Oklin value was 0.79, exceeding the recommended value of 0.6 (Stevens, 2002). Bartlett's Test of Sphericity (Stevens, 2002) was statistically significant at 0.00 (less than 0.05), supporting the factorability of the correlation matrix.

Table 5.7: Percentage frequencies of survey responses of non-adopters of 311

Variable name	Very significant	Significant	Somewhat significant	Not significant	N
No one to spearhead the project	10.7%	18.9%	22.4%	**48.0%**	196
Difficulty to obtain a 311 designation	3.2%	9.0%	19.0%	**68.8%**	189
No demand from citizens	**31.0%**	29.9%	20.8%	18.3%	197
Lack of access to technical knowledge	4.1%	8.2%	22.2%	**65.5%**	194
No obvious need for one	26.6%	**28.6%**	24.1%	20.6%	199
Start-up cost	**40.5%**	22.6%	17.9%	19.0%	195
Annual operating costs	**42.1%**	27.9%	15.2%	14.7%	197
Lack of access to private and public financing tools	19.0%	24.6%	21.5%	**34.9%**	195
Unavailability of funding	**35.2%**	27.0%	16.8%	20.9%	196
Lack of support from elected officials	9.6%	19.3%	14.7%	**56.3%**	197
Lack of support from administrative staff	4.6%	17.8%	21.3%	**56.3%**	197
Lack of active involvement top management	7.6%	14.2%	16.8%	**61.4%**	197
Lack of pressure from another agency	7.6%	15.2%	18.3%	**58.9%**	197
Absence of Chief Information Officer	7.1%	7.1%	11.7%	**74.0%**	196
Lack of ability to collaborate with other agencies	3.6%	6.7%	15.4%	**74.4%**	195
Local govt. strategic plan does not call for 311	20.6%	27.8%	22.2%	**29.4%**	194
Citizen satisfaction not a priority	4.8%	5.3%	4.8%	**85.2%**	189
Commitment to improve service is not a priority	3.7%	2.1%	4.8%	**89.4%**	188
Lack of public expectation for better customer service	3.7%	5.9%	16.0%	**74.5%**	188
Concern about tracking and measuring agency performance	2.6%	5.8%	13.8%	**77.8%**	189

The Kaiser criterion is used for deciding what variables to retain (Stevens, 2002), which prescribes to retain only those components whose eigenvalues are greater than 1 (Stevens, 2002). The initial eigenvalues revealed the presence of five components with values exceeding 1 (Figure 5.5). The five components explain 28.8%, 13.3%, 10.4%, 8.2%, and 6.6% of the variance respectively. The five-component solution explained a total of 67.4% of the variance. The factor loading matrix is presented in Table 5.8. To aid in the interpretation of these five components, oblimin rotation was performed. The rotated solution revealed the presence of a simple structure, with the five components showing a number of strong loadings and all variables loading substantially on one component.

Figure 5.5: Scree plot of Eigenvalues



The five components were named according to the grouping of variables that loaded unto them. Stevens (2002) states that it is best to use variables that share at least 15 percent of its variance with the construct (factor). It is best to use loadings that are

0.40 or greater (Stevens, 2002) The first component was named managerial support, the second component was named financial constraints, the third component was named organizational responsiveness, the fourth component was named strategic plan placement, and the fifth component was named technology champion.

Table 5.8: Pattern Matrix

	Component				
	1	**2**	**3**	**4**	**5**
Lack of support from administrative staff (#11)	**.842**				
Lack of active involvement of top management (#12)	**.807**				
Lack of support from elected officials (#10)	**.769**				
Lack of pressure from another agency (#13)	**.693**				
Start up Cost (#6)		**-.922**			
Unavailability of funding (#9)		**-.917**			
Annual operating costs (#7)		**-.910**			
Lack of access to private and public financing tools (#8)		**-.818**			
Commitment to improve services is not a priority (#18)			**-.927**		
Citizen satisfaction is not a priority (#17)			**-.864**		
Concern about tracking and measuring agency performance (#20)			**-.793**		
Lack of public expectations for better customer service (#19)			**-.744**		
No demand from citizens (#3)				**.872**	
No obvious need for one (#5)				**.840**	
Local govt. strategic plan does not call for 311 call center (#16)				**.482**	
Lack of access to technical knowledge (#4)					**.784**
Difficult to obtain a 311 designation (#2)					**.664**
Lack of ability to collaborate with other agencies (#15)					**.645**
No-one to spearhead the project (#1)					**.596**
Absence of Chief Information Officer (#14)	**.410**				**.465**

Adopters of 311 Government call centers

This section examines at the survey responses from cities that have adopted a 311 government call center. Out of the 260 survey responses received, 48 survey respondents indicated that they did have a 311 government call center or were in the process of adopting one. In addition to the general demographic questions at the beginning and towards the end of the survey, survey questions were grouped around four major themes. They are technology champion, financial resources, political and administrative influences, and citizen satisfaction. Survey questions were categorized around a four point Likert scale.

The first part of the analysis involves percentage frequencies for each of the survey questions. The results are displayed in Table 5.9. Based on percentage frequencies, respondents thought that the following variables were either very significant or significant in explaining the adoption of their 311 government call center. A technology savvy elected official to champion the innovation (30.2%), a public sector employee to champion and oversee the technology through to implementation (48.8), availability of funding (60.5%), presence of existing resources to put together call center (34.9%), support from Mayor (71.4%), support from other elected officials (44.2%), support from administrative staff (58.1%), active involvement of top management (58.1%), 311 call center contributes to mission or vision statement (58.1%), citizen satisfaction is a priority (83.7%), public expectation of better customer service (65.1%), and tracking and measuring agency performance (58.1%) were considered very significant. Cross agency collaboration (37.2%) and demand from citizens (39.5%) were considered significant. It should be noted that the variable, services can be provided at a

lower cost, was considered both significant and not significant in the adoption of a 311 government call center.

Table 5.9: Frequencies and percentages of survey responses of adopters of 311

Variable name	Very significant	Significant	Somewhat significant	Not significant	N
A technology savvy elected official to champion the innovation	**30.2%**	27.9%	14.0%	27.9%	43
A politically savvy citizen to champion the innovation	4.8%	14.3%	28.6%	**52.4%**	42
A private vendor to shepherd the technology through to implementation	9.3%	30.2%	7.0%	**53.5%**	43
A public sector employee to champion and oversee the technology through to implementation	**48.8%**	20.9%	14.0%	16.3%	43
Availability of funding	**60.5%**	23.3%	9.3%	7.0%	43
Access to private and public financing tools such as grants and bond issues	9.3%	14.0%	27.9%	**48.8%**	43
Presence of existing resources to put together call center	**34.9%**	32.6%	27.9%	4.7%	43
Services can be provided at a lower cost	23.3%	**27.9%**	20.9%	**27.9%**	43
Funding provided in Strategic Plan	16.3%	18.6%	18.6%	**46.5%**	43
Support from Mayor	**71.4%**	21.4%	2.4%	4.8%	42
Support from other elected officials	**44.2%**	37.2%	14.0%	4.7%	43
Support from administrative staff	**58.1%**	27.9%	11.6%	2.3%	43
Active involvement of top management	**58.1%**	34.9%	4.7%	2.3%	43
Pressure from another governmental agency	0.0%	4.7%	20.9%	**74.4%**	43
Presence of Chief Information Officer	20.9%	25.6%	18.6%	**34.9%**	43
Cross agency collaboration	32.5%	**37.2%**	16.3%	14.0%	43
311 call center contributes	**58.1%**	30.2%	9.3%	2.3%	43

to mission or vision statement					
Citizen satisfaction is a priority	**83.7%**	16.3%	0.0%	0.0%	43
Commitment to improve services to citizens	39.5%	**46.5%**	11.6%	2.3%	43
Public expectation of better customer service	**65.1%**	30.2%	4.7%	0.0%	43
Tracking and measuring agency performance	**58.1%**	30.2%	9.3%	2.3%	43
Demand from citizens	30.2%	**39.5%**	20.9%	9.3%	43

The second part of this analysis of adopters of 311 government call centers involved constructing a correlation matrix. Pearson's Correlation Coefficient is most often used as a measure of association between two interval-ratio variables. (Frankfort-Nachmias & Leon-Guerrero, 2009). Correlations are used to show relationships between variables. If the change in one variable is accompanied by a change in the other, then the variables are said to be correlated. It can show whether there is a positive or negative relationship and the strength of the relationship. A negative relationship is one where as the value of one variable increases the value of the other variable it is associated with decreases. A positive relationship is one where as the value of a variable increases so too does the value of the other variable it is associated with.

Table 5.10 shows variables that are grouped under the theme of technology champion and the variables they are correlated with. In this group the variable, a technology savvy elected official to champion the innovation had the most correlations, five correlations; the correlations can be described as moderately positive.

Table 5.10: Significant correlations – Adopters of 311 government call centers

Variable 1 A technology savvy elected official to champion the innovation	N	Sig. (2 tailed)	Pearson Correlation
A politically savvy citizen to champion the innovation	42	.011	.387*
Availability of funding	43	.045	.307*
Funding provided in Strategic Plan	43	.001	.479**
Support from Mayor	42	.005	.427**
Presence of Chief Information Officer	43	.040	.315*
Variable 2 A politically savvy citizen to champion the innovation	N	Sig. (2 tailed)	Pearson Correlation
A technology savvy elected official to champion the innovation	42	.011	.387*
Funding provided in Strategic Plan	42	.022	.352*
Variable 3 A private vendor to shepherd the technology through to implementation	N	Sig. (2 tailed)	Pearson Correlation
Support from Mayor	42	.006	.416**
Cross agency collaboration	43	.018	.358*
Variable 4 A public sector employee to champion and oversee the technology through to implementation	N	Sig. (2 tailed)	Pearson Correlation
Active involvement of top management	43	.014	.370*

**.Correlation is significant at the 0.01 level (2 tailed)
*.Correlation is significant at the 0.05 level (2 tailed)

The second set of questions was grouped around the theme of financial resources. Several variables from this grouping (Table 5.11) showed moderate levels of correlation with each other as well as with variables from other groups. The variable, funding

provided for in strategic plan, was moderately correlated with nine other variables, the most correlations in this group.

Table 5.11: Significant correlations – Adopters of 311 government call centers

Variable 5 Availability of funding	N	Sig. (2 tailed)	Pearson Correlation
A technology savvy elected official to champion the innovation	43	.045	.307*
Funding provided in Strategic Plan	43	.026	.340*
Active involvement of top management	43	.014	.372*
Presence of Chief Information Officer	43	.001	.479**
Variable 6 Access to private and public financing tools such as grants and bond issues	N	Sig. (2 tailed)	Pearson Correlation
Presence of existing resources to put together call center	43	.044	.309*
Services can be provided at a lower cost	43	.037	.319*
Funding provided in Strategic Plan	43	.003	.441**
Variable 7 Presence of existing resources to put together call center	N	Sig. (2 tailed)	Pearson Correlation
Active involvement of top management	43	.010	.389*
Access to private and public financing tools such as grants and bond issues	43	.044	.309*
Variable 8 Services can be provided at a lower cost	N	Sig. (2 tailed)	Pearson Correlation
Access to private and public financing tools such as grants and bond issues	43	.037	.319*
Funding provided in Strategic Plan	43	.017	.363*
Support from other elected officials	43	.004	.432**
Public expectations of better customer service	43	.020	.354*
Variable 9 Funding provided in Strategic Plan	N	Sig. (2 tailed)	Pearson Correlation
A tech-savvy elected official to champion the innovation	43	.001	.479**

A politically savvy citizen to champion the innovation	42	.022	.352*
Availability of funding	43	.026	.340*
Access to private and public financing tools such as grants and bond issues	43	.003	.441**
Services can be provided at a lower cost	43	.017	.363*
Support from other elected officials	43	.001	.493**
Active involvement of top management	43	.020	.353*
Presence of Chief Information Officer	43	.025	.341*
Demand from Citizens	43	.013	.375*

**.Correlation is significant at the 0.01 level (2 tailed)
*.Correlation is significant at the 0.05 level (2 tailed)

The third group of questions in the survey was based around the theme of political and administrative influences. Four of the variables from this group (Table 5.12), had quite a few moderate correlations with other variables inside and outside the group. The variable with the most moderate correlations was that of active involvement of top management. It had eight variables that it was moderately correlated to. The variable with the second largest number of correlations was that of support from other elected officials, it had seven; it had some of the strongest correlation values. The strongest relationship was between variables, support from other elected officials and the public's expectations of better customer service. Support from administrative staff is the next variable that had the third highest number of moderate correlations in the group. Pressure from another group is the only variable that showed moderately negative correlations with two other factors, 311 call center contributes to mission and vision statement, and tracking and measuring agency performance.

Table 5.12: Significant correlations – Adopters of 311 government call centers

Variable 10 Support from Mayor	N	Sig. (2 tailed)	Pearson Correlation
A technology savvy elected official to champion the innovation	42	.005	.427**
A private vendor to shepherd the technology through to implementation	42	.006	.416**
Support from other elected officials	42	.001	.498**
Tracking and measuring agency performance	42	.024	.348*
Variable 11 Support from other elected officials	N	Sig. (2 tailed)	Pearson Correlation
Services can be provided at a lower cost	43	.004	.432**
Funding provided in Strategic Plan	43	.001	.493**
Support from Mayor	42	.001	.498**
Support from administrative staff	43	.009	.391**
Citizen satisfaction is a priority	43	.007	.405**
Public expectations of better customer service	43	.001	.501**
Demand from citizens	43	.002	.463**
Variable 12 Support from administrative staff	N	Sig. (2 tailed)	Pearson Correlation
Support from other elected officials	43	.009	.391**
Active involvement of top management	43	.021	.350*
Citizen satisfaction is a priority	43	.316	.316*
Public expectation of better service	43	.040	.315*
Demand from citizens	43	.001	.497**
Variable 13 Active involvement of top management	N	Sig. (2 tailed)	Pearson Correlation
A public sector employee to champion and oversee the technology through to implementation	43	.014	.370*
Availability of funding	43	.014	.372*
Presence of existing resources to put together call center	43	.010	.389**
Funding provided in Strategic Plan	43	.020	.353*
Support from administrative staff	43	.021	.350*
311 call center contributes to mission or vision statement	43	.011	.386*

Public expectations of better customer service	43	.044	.308*
Tracking and measuring agency performance	43	.004	.430**
Variable 14 Pressure from another governmental agency	N	Sig. (2 tailed)	Pearson Correlation
311 call center contributes to mission or vision statement	43	.036	-.320*
Tracking and measuring agency performance	43	.036	-.320*
Variable 15 Presence of Chief Information Officer	N	Sig. (2 tailed)	Pearson Correlation
A technology savvy elected official to champion the innovation	43	.040	.315*
Availability of funding	43	.001	.479**
Funding provided in Strategic Plan	43	.025	.341*
Variable 16 Cross agency collaboration	N	Sig. (2 tailed)	Pearson Correlation
A private vendor to shepherd the technology through to implementation	43	.018	.358*

**.Correlation is significant at the 0.01 level (2 tailed)

*.Correlation is significant at the 0.05 level (2 tailed)

The fourth group of questions was grouped around the theme citizen satisfaction. Based on the values from (Table 5.13), the variable that had the most correlations in this group, was that of public expectation of better service. It had seven variables that were moderately correlated with it. Support from other elected officials had the highest correlation value with the variable public expectations of better service. Within this group there were two negative relationships identified based on the negative values of the correlations. The variable, pressure from another governmental agency, had negative correlations with the variables, 311 call centers contributes to mission or vision statement, and, tracking and measuring agency performance.

Table 5.13: Significant correlations – Adopters of 311 government call centers

Variable 17 311 call center contributes to mission or vision statement	N	Sig. (2 tailed)	Pearson Correlation
Active involvement of top management	43	.011	.386*
Pressure from another governmental agency	43	.036	-.320*
Citizen satisfaction is a priority	43	.005	.424**
Tracking and measuring agency performance	43	.022	.350*
Variable 18 Citizen satisfaction is a priority	N	Sig. (2 tailed)	Pearson Correlation
Support from other elected officials	43	.007	.405**
Support from administrative staff	43	.039	.316*
311 call center contributes to mission or vision statement	43	.005	.424**
Public expectation of better customer service	43	.020	.353*
Variable 19 Commitment to improve service to citizens despite cost	N	Sig. (2 tailed)	Pearson Correlation
Public expectations of better customer service	43	.012	.378*
Variable 20 Public expectations of better customer service	N	Sig. (2 tailed)	Pearson Correlation
Services can be provided at a lower cost	43	.020	.354*
Support from other elected officials	43	.001	.501**
Support from administrative staff	43	.040	.315*
Active involvement of top management	43	.044	.308*
Citizen satisfaction is a priority	43	.020	.353*
Commitment to improve services to citizens despite cost	43	.012	.378*
Demand from citizens	43	.002	.449**
Variable 21 Tracking and measuring agency performance	N	Sig. (2 tailed)	Pearson Correlation
Support from Mayor	42	.024	.348*

Active involvement of top management	43	.004	.430**
Pressure from another governmental agency	43	.036	-.320*
311 call center contributes to mission or vision statement	43	.022	.350*
Variable 22 Demand from citizens	N	Sig. (2 tailed)	Pearson Correlation
Funding provided in Strategic Plan	43	.013	.375*
Support from other elected officials	43	.002	.463**
Support from administrative staff	43	.001	.497**
Public expectations of better customer service	43	.002	.449**

**.Correlation is significant at the 0.01 level (2 tailed)

*.Correlation is significant at the 0.05 level (2 tailed)

From the above correlations it is clear that there are several variables that were moderately correlated to five or more other variables. These variables are, funding provided for in strategic plan (9 variables), active involvement of top management (8 variables), support from other elected officials (7 variables), public expectations of better customer service (7 variables), support from administrative staff (5 variables), and a technology savvy elected official to champion the innovation (5 variables).

Qualitative Analysis of Survey

The survey contained an open-ended question that asked respondents to identify any other factors that they thought might contribute to the adoption/non-adoption of a 311 government call center by their local government. The question was asked to capture any possible unique factors that the researcher may not have covered or touched on. The answers received covered four main areas of concern. The first area, which the majority of responses fell into, was that there was no obvious need for one (the 311 call center). The second area was that there was no demand from the public. The third area of concern

was that of funding sources. And the last area of concern, which may point to an agenda for further research, is that current technology based services already addresses the needs of citizens and their concerns.

Summary

The analysis of the data shows that there are significant factors in the adoption of 311 government call centers. The majority of survey respondents were comprised largely of individuals in supervisory positions with an average tenure of eight years. In regards to organization structure, the majority of the responses came almost equally from cities that had either a mayor-council or council-manager form of government; the council-manager form of government had a slight majority. Respondents from cities with populations over 250,000 and 500,000 had a larger proportion of adopters of 311 government call centers than smaller population categories. Forty-three percent of survey responses came from five states; California, Florida, Texas, Illinois, and Indiana. The region with the highest response rate was the South at thirty-five percent. The North had the lowest response rate at eleven percent.

From the analysis of non-adopters of 311 government call centers it was found that there were several variables that were identified by respondents as significant in the non adoption of a 311 call center. Based on the frequencies and percentages the following variables were identified as being either significant or very significant in why an entity did not adopt a 311 government call center; no demand from citizens, start-up costs, annual operating costs, unavailability of funding, and no obvious need for one. The variable, local government strategic plan does not call for a 311 call center, had an almost

equal distribution of responses. A principal component analysis was run and based on the eigenvalues obtained the variables were grouped into five factors. Based on the grouping of variables the five factors were giving the following labels; managerial support, financial constraints, organizational responsiveness, strategic plan placement and technology champion.

Due to the low numbers of adopters of 311 government call centers that responded to the survey, the type of statistical analysis that could be performed was limited to descriptive statistics and constructing a correlation matrix. Based on percentage frequencies, the following variables were identified as either very significant or significant in the adoption process; a technology savvy elected official to champion the innovation, a public sector employee to champion and oversee the technology through to implementation, availability of funding, presence of existing resources to put together call center, support from Mayor, support from other elected officials, support from administrative staff, active involvement of top management, 311 call center contributes to mission or vision statement, citizen satisfaction is a priority, public expectation of better customer service, tracking and measuring agency performance, cross agency collaboration, and demand from citizens. Services can be provided at a lower costs was considered both significant and not significant in the adoption process. From the correlation matrix that was constructed several variables were identified as consistently being correlated with five or more other variables; funded provided for in strategic plan, active involvement of top management, support from other elected officials, public expectations of better customer service, support from administrative staff, and a technology savvy elected official to champion the innovation. In conclusion the

quantitative analysis of the survey data did identify factors that can be considered significant in the adoption and non-adoption of 311 government call centers.

Chapter 6. Whither 311 Government Call Centers?

Introduction

311 government call centers have become an avenue for citizens to request government services via phone, one easy to remember number '311' and have their service requests processed and recorded in a timely manner. Some cities and counties have utilized the slogan, 'One Call to City Hall' to embody what 311 is all about. Usually citizens are giving a tracking number to follow the progress of their service request from initiation to completion. 311 government call centers have been adopted by cities and counties of varying sizes; from the small city of Columbia, South Carolina with a population of approximately 129,272 people to the largest city in the United States, New York, New York with a population of approximately 8,175,133 people. The first city to have adopted a 311 government call center was the city of Baltimore, Maryland in 1996. Presently there are approximately 300 cities and counties that have adopted a 311 government call center in some form. Adoption and implementation rates of 311 government call centers continue to remain low. Findings from this research could offer a look into the reasons why adoption rates continue to be low.

What makes a 311 government call centers so special? In the past when citizens had to contact their local government for service they would have to sort through hundreds of numbers in the local blue pages. In many cases it was a hit or miss if citizens were able to contact the right person. Even if citizens submitted a request or a complaint there was no way for citizens to track the progress. With a 311 government call center the

implications are significant not only for citizens but government officials as well. Officials are able to track and know what services are being requested the most. They are able to know how long the service requests are taking to process, and as such, allocation of resources can be better planned and budgeted for. This tracking system adds to an increased level of accountability within an organization. When most local government entities adopt a 311 government call center it fosters interagency collaborations among departments to offer services in a timely manner. It forces departments to re-engineer their business processes. Organizational change, in this case interagency collaboration and the re-engineering of business process takes place; this exemplifies the enactment of technology theory. (Fountain, 2001)

The first and foremost reason behind the first wave of adopters of 311 government call centers was to provide an alternative non-emergency number to the emergency 911 number. It has become the norm to hear of news reports of people calling 911 for non-emergency problems such as "bothersome house flies" (http://www.huffingtonpost.com/2014/10/01/outrageous-911-flies) or "angry cat traps woman in her bedroom" (http://www.huffingtonpost.com/2014/07/08/woman-calls-911-on-cat). The impetus to make the 311 number available to local government entities for non emergency purposes came from the Federal government in February, 2007.

Why is this study important to the discipline of Public Administration? During the 1990's there was a lot of focus in the discipline of public administration on e-government and the provision of government services to citizens online. The challenge though is that not many citizens have access to online services. Offering services online do not translate into equal and equitable services to all citizens. By providing quick, efficient access to

government services over the phone via an easy to remember number over ninety percent of an entities population can have equal and equitable access to government services. The adoption rate is still very low. As the service of 311 as a non emergency contact number for government services is still very new, being around for roughly fifteen years, the number of scholarly empirical research on the subject is still very small.

This study adds to the body of scholarly literature by adding to the relatively small number of empirical research conducted on 311 government call centers. It identifies factors important to the adoption process of 311 government call centers and also attempts to rank them based on level of significance. It is hoped that this will provide a starting point for any government entity interested in adopting and implementing a 311 government call center.

How is the study conducted?

This study was exploratory in nature and utilized a mixed method approach combining both qualitative and quantitative data collection methods and analysis. The reason an exploratory approach was taken was because there is extensive literature on technology adoption within the public sector but very limited empirical data on adoption of 311 government call centers. The researcher cannot be sure what theories on technology adoption could be applied to predict the adoption of a 311 government call center. Upon examination of the current literature on technology adoption within the public sector there did not appear to be any one particular theory that can be utilized to predict 311 government call center adoption. Taking an exploratory approach would allow for significant factors to be identified in the adoption and non adoption process of

311 government call centers. In person and phone interviews were conducted with managers and administrators of 311 government call centers from which a survey was formulated. This survey was then mailed out electronically as well as through traditional mail to city managers and administrators of cities with populations of 25,000 and over. Findings from data analysis of the survey response did identify significant factors in the adoption process of 311 government call centers.

Discussion of Results

The qualitative analysis portion of the research involved in person and over the phone interviews with 311 call center managers and administrators from the following cities and counties to develop in-depth case studies: New York City, New York; Orange County, Florida; Miami-Dade County, Florida; City of Columbia, South Carolina; and City of Denver, Colorado. The main purpose behind the case studies was to determine if there was anything new that could be learnt about the adoption process of new technology. Elements of existing theories about technology adoption could be found throughout each case study but no one theory could be used to describe the adoption process. The following themes could be found throughout the case studies; presence of a change agent(technology champion); innovation decision process; perceived need for 311 government call center; political support; phased implementation; stakeholder buy-in; organizational culture of transparency and accountability; public-private partnership; and re-engineering of business process.

The quantitative portion of the research involved descriptive statistical analysis and factor analysis of the data. After factor analysis of the data from respondents who had

not adopted a 311 government call center the following factors were identified as being significant in the reason why a 311 government call center had not been adopted, they are ranked based on eigenvalues; managerial support, financial constraints, organizational responsiveness, strategic plan placement, and technology champion. Based on just frequency distributions the following responses were identified as being significant in the non adoption of a 311 government call center; no demand from citizens, start up costs, annual operating costs, unavailability of funding, and no obvious need for one.

Based on frequency distributions the following responses were identified as being significant in the adoption process of a 311 government call center. They were then grouped together under the following subheadings derived from the factor analysis that was conducted on the responses of non-adopters.

Managerial Support

- support from Mayor
- support from other elected officials
- support from administrative staff
- active involvement of top management

Financial Constraints

- availability of funding
- presence of existing resources to put together call center
- services can be provided at a lower cost,

Organizational Responsiveness

- public expectation of better customer service
- tracking and measuring agency performance
- demand from citizens
- Cross agency collaboration

Strategic Plan Placement

- 311 call center contributes to mission or vision statement
- citizen satisfaction is a priority

Technology Champion

- a technology savvy elected official to champion the innovation
- a public sector employee to champion and oversee the technology through to implementation

Relationship of Results to Theory

Managerial Support

Throughout the technology adoption literature managerial support is identified as an important factor in technology adoption. (Founatin, 2001; Ebrahim and Zahir, 2005; Garson, 2006; Reddick, 2009). Managerial support can include senior level administrators as well as elected officials who are hierarchal positioned at the top of most organizations. Ebrahim and Zahir (2005) argue that due to the complexity and change that most technology projects bring to an organization there has to be strong managerial leadership from the beginning. This dissertation research has shown it to be true. (Garson, 2006). All the cities and counties in the case studies that had adopted a 311 government call center had strong managerial support. The differences came down to whether the support was from an elected or non-elected official or in some cases both. The statistical analysis of the data also highlights the significance of managerial support. In the factor analysis conducted on the data from non-adopters of 311 government call centers, the grouping of variables labeled managerial support had the highest eigenvalues.

Financial Constraints

From both quantitative and qualitative analysis of the data, financial constraints are a significant factor in both the adoption and non-adoption of 311 government call centers. It could be said that this was an obvious factor as research shows that lack of

financial resources is a major barrier in implementing technology based projects in the public sector (Ebrahim and Zahir, 2005). Research also shows though that even with adequate financial resources in place public sector technology based projects have a high failure rate (Heeks, 2003). Based on the prior stated research the assumption cannot be made that adequate financial resources alone can guarantee the successful adoption of a 311 government call center. The impact it has though still cannot be discounted. In the factor analysis performed, variables that were grouped under financial constraints, received the second highest eigenvalues, for factors that were identified as being significant in the non adoption of 311 government call centers. Mayor Bloomberg for the City of New York dedicated funding to the adoption of a 311 government call center at the same time he slashed the budgets of other city departments. The County Commissioners of Miami-Dade County issued a general obligation bond to help fund the start up of its 311 government call center. And Orange County, Florida received a federal grant to offset its start-up costs. Both entities though, Miami-Dade and Orange County, still had to get creative in devising long term funding strategies.

Organizational Responsiveness

Fountain (2001) states that government agencies who attempt to stay with technology that reinforces the traditional bureaucratic structure of government miss out on the opportunity to build cross agency collaborative partnerships. Such collaborations have the potential to impact organizations not just by increasing efficiencies but by orchestrating change within the organizations themselves. Using Denver, Colorado as an example, one sees that for city departments to utilize Denver 311 to take their calls they

must agree to implement and adhere to service level agreements. Such service level agreements hold city departments accountable for the amount of time it would take them to complete a service request submitted by a citizen. An organizations willingness to submit to this type of accountability is a good indication of their responsiveness to the public's expectations of better service and performance. Unlike New York City 311 where Mayor Bloomberg mandated that all city departments had to be a part of its 311 government call center within one year, Denver left it up to city departments to decide if they wanted to join Denver 311. In all fairness to Mayor Bloomberg, he was trying to make the city more responsive to citizens needs and also increase accountability at the same time. Based on the factor analysis results of non-adopters of 311 government call centers, the variables that were grouped under the component that was later labeled as organizational responsiveness received the third highest eigenvalues, as a significant factor in the non-adoption of a 311 government call center.

Inclusion in Strategic Plan

Inclusion in an organizations strategic plan is a factor that is not referred to explicitly in the research literature but is implied. Garson (2006) states that if organizations are used to long-term, strategic planning then planning for technology based projects will be reinforced. "It is difficult to be successful when you do not know where you are going"(Garson, 2006). Fountain discusses the embeddedness of technology and the institutionalization of technology related activities. To determine if something has been institutionalized one must determine how easy it would be to do away with the service if there ever is a change in circumstances e.g. economic recession

or change in political leadership. New York City 311 is still live and active despite there being a change in political leadership. Miami-Dade County 311 despite budget constraints that forced them to lay off individuals is still moving forward with adding more county departments to its roster. Surprisingly variables grouped under this factor had the fourth highest eigenvalues among non-adopters of 311 government call centers. There may be the feeling that if there is no obvious need for a 311 government call center then there is no need to include it in an organizations strategic plan. This in turn reduces the likelihood of a 311 government call center being adopted. A strategic plan is a long term commitment to implementing and maintaining services in line with an organizations visions and goals. If there is demand for a 311 government call center from citizens, those citizens in turn elect officials who are aware of the expectations of the citizens who voted them in and so they in turn will plan long term for the adoption of a 311 government call center. Garson (2006) state that part of a successful strategic plan for IT based projects is gaining administrative as well as political approval. By placing the need for a 311 government call center into an entities strategic plan and committing long term to funding it in the plan, elected officials are showing a commitment to the adoption process.

Technology Champion

Throughout this research the factor or variable that is always identified and highlighted as being important in the adoption of a 311 government call center is the presence of a technology champion. Whether an elected official, a senior administrator or a combination of both, there is always present a technology champion. Going back to

Mercer and Philips (1981), people are the most important element in the successful adoption of technology in the public sector. From the case studies such individuals can easily be identified e.g. New York City – Mayor Michael Bloomberg, Denver, Colorado – Mayor Hickenlooper, City of Columbia, South Carolina – Judy Spell, Orange County, Florida – Marilyn Ward, Miami-Dade County – Commissioner Moss, County Manager George Burgess, CIO Judy Zito. "Projects benefit from a high-level champion who appreciates what technology can do and makes the case to the rest of top management". (Garson, 2006) Even when the organization in question has the majority of factors in play that would work against successful adoption of a 311 government call center; the presence of a technology champion makes the difference. Such an example would be Orange County, Florida where the initial failure during the start up process of its 311 government call center should have stopped the entire project in its tracks. Due to the diligence of a dedicated few the project kept on track. "Compromises often essential in effecting successfully innovation adoption can only be worked out among people", (Mercer and Philips, 1981)

Based on the findings of both the qualitative and quantitative research the following models were put together to show the variables and factors that are significant in the adoption and non-adoption of 311 government call centers. Figure 6.1 shows the conceptual model that identifies the factors and the associated variables that contribute to the non adoption of 311 government call centers. Figure 6.2 shows the conceptual model that identifies the relationships that need to be in place for successful adoption of a 311 government call center to take place.

New Public Management and E-Government

In this study there were two conceptual frameworks that were the initial guiding force for this study, that of New Public Management and E-government. E-government, roughly defined, is the use of all information and communication technologies to allow for greater access to government services and information by citizens. (Moon, 2002; Garson, 2006) One of the tenets of New Public Management (NPM) states that if government treats citizens like customers then service efficiency and responsiveness will improve. Through the adoption and implementation of a 311 government call center, local government entities are able to provide greater access to government services through the use of telecommunications via a 311 government call center. At the same time the driving force behind the adoption of a 311 government call center is to provide a better customer service experience to the citizen which in turn drives the need for greater efficiency and responsiveness of local government departments to deliver services. Though the adoption rate may still remain low, once an organization makes the commitment to adopt a 311 government call center the implications are far reaching throughout that organization.

Implications for Further Research

The findings of this research have addressed the aims that were set at the beginning of this research. The first aim was to explore factors that affect adoption of 311 centralized government call centers within local government entities within the United States. The second aim was to determine through factor analysis what factors affect adoption and implementation of 311 centralized government call centers. The findings of

Figure 6.1: Non-Adoption 311 Government Call Center

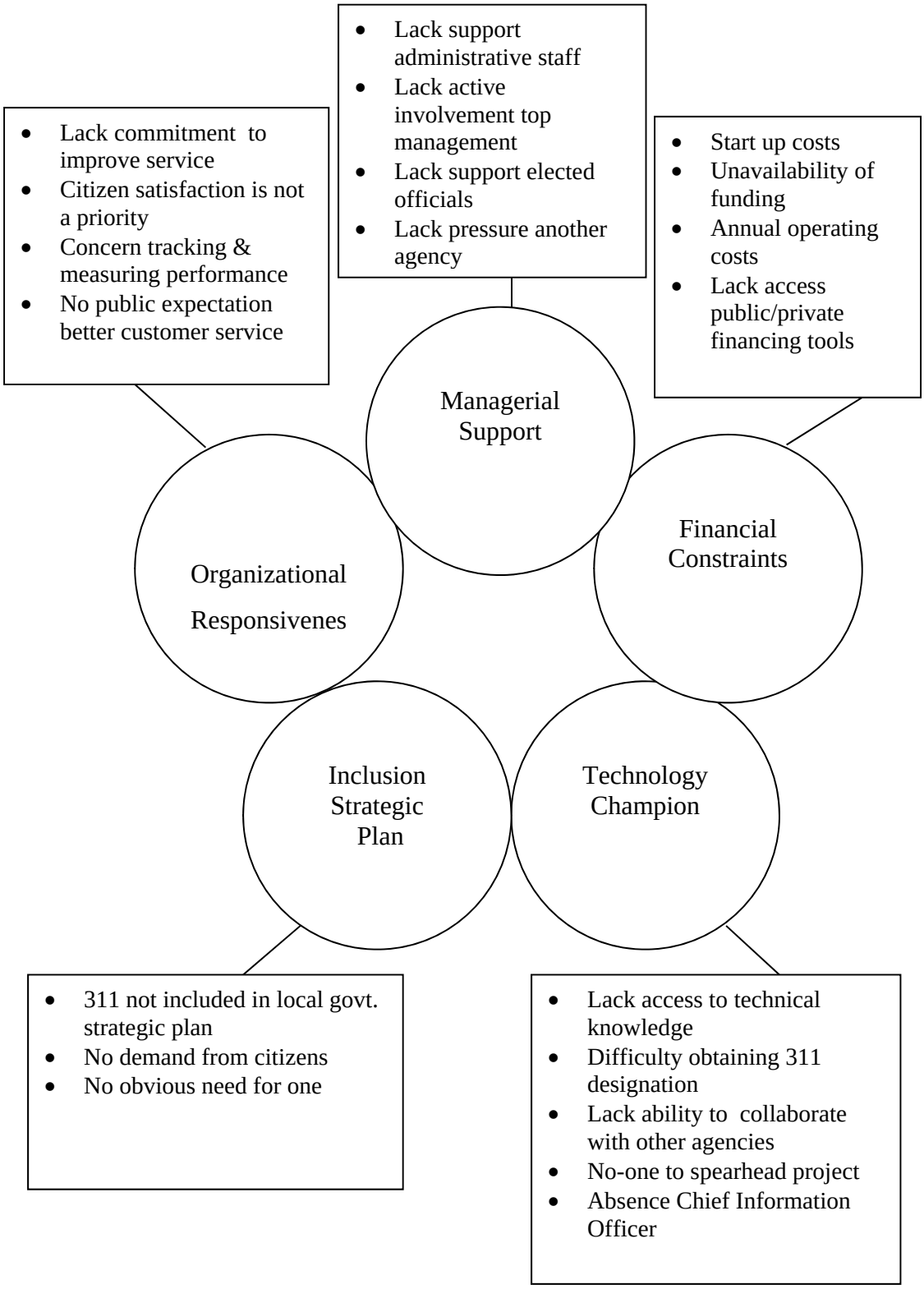
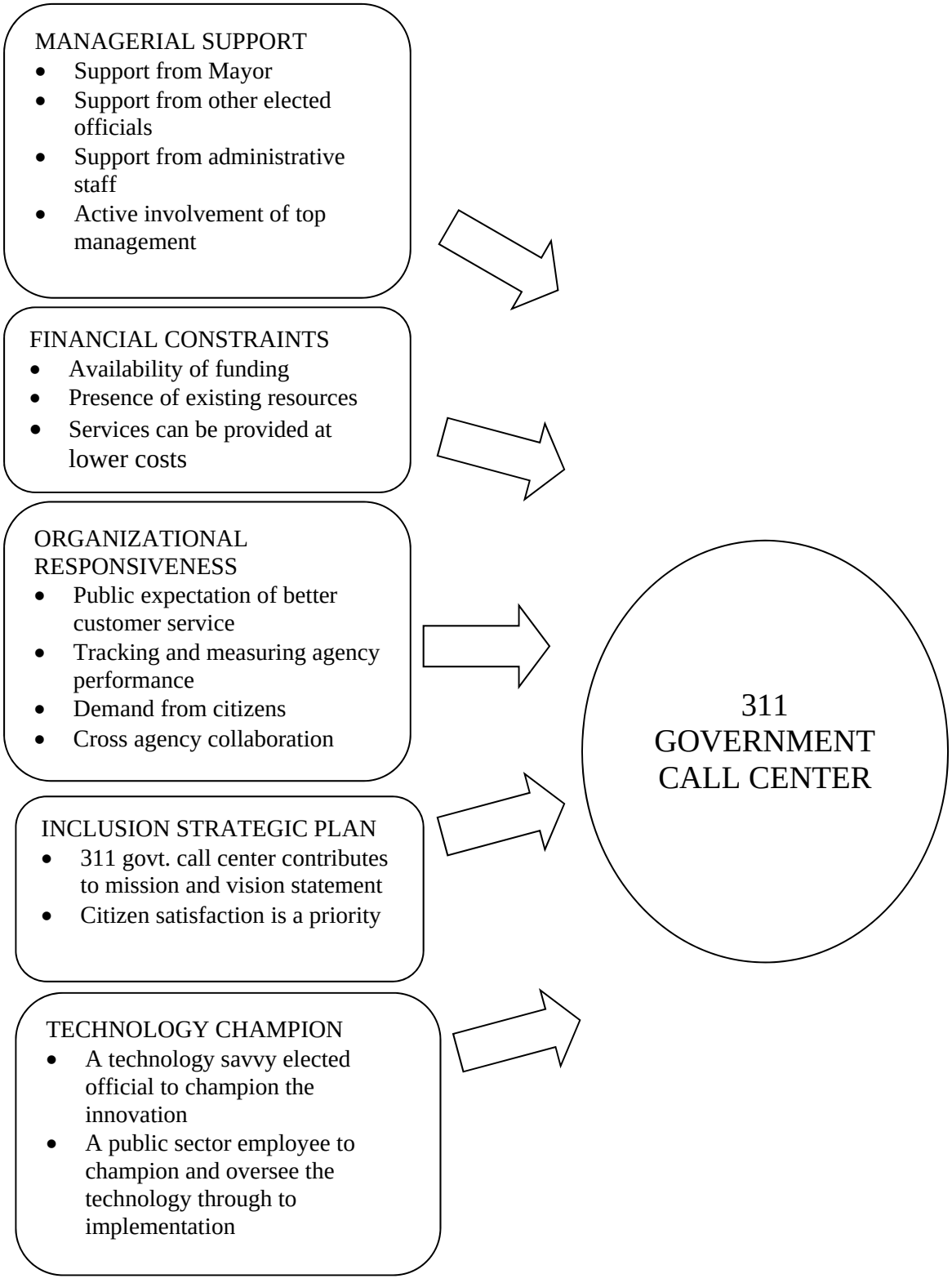


Figure 6.2: Significant variables in the Adoption of 311 Government Call Centers



this study have further implications. Based on the factors identified future research may be possible to verify whether the factors can be used as predictors in determining the adoption and non adoption of 311 government call centers. The method of statistical analysis used in this study can only be used to identify significant factors and show relationships between variables but cannot be used to predict adoption or non adoption of 311 government call centers. Other future research might focus on the following:

- Whether the factors identified can be used as predictor variables to determine the adoption of 311 government call centers
- Are 311 government call centers providing responsive, efficient services to citizens
- Is the data collected by 311 government call centers being utilized by government administrators to determine allocation of resources during the budgeting process
- How embedded and institutionalized have 311 government call centers become in their respective organizations
- Does the entity that have a 311 government call also have an online service request portal for citizens to access and of the two which one is being more utilized by citizens
- Look at the true cost of adopting and implementing a 311 government call center
- How does having a 311 government call center affect citizen satisfaction; do citizen satisfaction levels differ among users and non-users of 311 government call centers

- Does having an easy to remember three digit telephone number versus having a seven or ten digit telephone number make a difference in the frequency of service requests?

Limitations of the Study

With any study there are limitations. Though all due diligence was made to address reliability and validity concerns this study does have some limitations. The first one being that this study is an exploratory study. Results of this study can only be used to identify significant factors and identify relationships between variables. The results of this study cannot be used to predict possible outcomes.

Another limiting factor to this study was the population size of adopters of 311 government call centers; the population size is very low at approximately 90 cities and counties. The response rate from the number of cities and counties that do have 311 government call centers could be considered good, between maybe forty to fifty percent of adopters responding. Even though percentage response rate is good the low frequency numbers limited the type of statistical analysis that could be performed to descriptive statistics and simple correlations.

A limitation to the principle component analysis that was conducted on the responses from non-adopters is the limitation of using eigenvalues to determine what components to retain. The statistical software SPSS generates a graphical representation called a scree test of eigenvalues. The general rule is to use only those components that account for a large amount of variances. The limitation is that there is the possibility of

excluding a component that has a small amount of variance or low eigenvalues but may still be significant.

Another possible limitation to this study is that responses from those who have identified their local government as having a 311 government call center may not have been with the organization at the time of adoption. Their responses may not be based on firsthand experience but may be based on second hand knowledge of the process.

Implications for Local Government Officials

Before any local government that does not have a 311 call center undertakes the task of adopting a 311 government call center they need to first understand the implications of having one. A 311 government call center is not just about offering citizens an easy to remember number to request government services and providing them with a tracking number to check on their requests, it is about transforming the way local governments provide services to its citizens. It is about the organization becoming citizen centric in its approach. Internal and external accountability increases, horizontal and vertical collaboration and partnerships is a must, and there is a greater opportunity based on available data for performance based management to take place. When a local government is considering adopting and implementing a 311 government call center the following five factors should be considered; managerial support, financial constraints, organizational responsiveness, strategic plan placement, and technology champion.

Local government officials should first ask themselves a few questions. Is my organization ready for the increased accountability that a 311 government call center will bring with the amount of data that it generates? Is my organization ready for the ability of

citizens to more easily access government services and track their requests? Is my organization ready for the vertical as well as horizontal collaborations and partnerships that 311 call centers require to offer more efficient and effective services? Is my organization responsive to the organizational changes that a 311 government call center may bring? Does my organization have the support from both administrative and elected officials? Is my organization committed long term to see the process through from beginning to end? Does my organization have the financial resources needed to see the adoption and implementation of a 311 government call center through? Are there individuals within my organization that will see this process through from beginning to end? From these questions it can be seen that adopting a 311 government call center has organizational wide implications.

All the cities and counties in this study first conducted feasibility studies. Officials visited other cities and counties that had successfully adopted a 311 government call center. Some locations formed committees to do the initial leg work needed. There has to be managerial as well as political support for the project. One way of garnering this support is by effective communication. Let people know what a 311 government call center is about. The Denver 311 in Denver, Colorado presented a business plan before hand to every department it wanted to take calls for. They did not assume that everyone within the organization knew what a 311 call center was.

Be realistic about the financial and technological resources that one's organization may have. Financial constraints do not necessarily mean that one cannot adopt and implement a 311 government call center. Financial constraints caused some locations to be creative in their use of existing resources to get their 311 government call center up

and running. The city of Philadelphia, Pennsylvania did not have all the financial resources they would have liked to have had to purchase all the equipment they thought they needed. Once they knew how limited their finances were they got creative and used a lot of what they already had on hand. 311 government call centers rely very heavily on the use of technology but its success does not rely solely on technology hardware and software resources.

Any local government looking to adopt a 311 government call center should not only focus on the financial and technological resources available but also on the responsiveness of the organization to change and adapt. The successful adoption of a 311 government call center relies on an organization's ability to adapt and change its organizational culture and structure to that of a more citizen centric approach. It is not enough to automate a process in the hopes that it will make a particular service more efficient and effective. The process needs to be looked at to identify redundant and inefficient steps. For example, if a citizen makes a request for a pothole to be filled, and the normal process takes two weeks, the question to ask is why does it take two weeks to fill a pot hole? Maybe approval from three different departments is needed before it can be filled. The next question to ask would be, why is approval needed from three different departments? Local governments have to ask themselves what can be done to remove unnecessary levels of bureaucracy. This calls for both horizontal and vertical collaboration within an organization.

When considering implementing a 311 government call center, local governments need to think long term. 311 government call centers are ever evolving entities. The call center model that an organization may have started with may not be the same model that

it ends up with in ten years. Call centers are not one off services that a local government can invest in for one year and then leave it alone. Due to its heavy use of technology 311 government call centers will always require hardware and software upgrades. Increasing call volumes have to be considered as well. New York City 311 has seen its call volume increase dramatically since inception. Planning long term means including an entities 311 government call center into that organizations long term strategic plan. This will allow for long term allocation of resources towards its development.

Finally, there should be a technology champion. This can either be an elected official, an administrator or both. There needs to be someone who can stay with the process from the conceptualization of the process to the end. The individual or individuals have to be someone who can build relationships with people throughout all levels of the local government, foster collaborations, and create partnerships between different departments and agencies. This is seen in the case of Orange County, Florida where the presence of technology champions made a huge difference in a 311 government call center being adopted versus being scrapped despite all the barriers that were present.

The above factors are ranked based on their level of significance identified in the study but they should not be seen as separate factors working independently of each other. They should be seen as inter-connected and inter-related factors that work hand-in-hand to facilitate the adoption process of a 311 government call center.

Summary

Adopting and implementing a 311 government call center is not only about adopting an easy to remember number for citizens to request services. It is also about changing organizational culture and routines within government departments. Once citizens are giving an easy access point to local governments with the 311 number it forces government entities to be more response. Citizens have an easier avenue they can call and complain or even just to make general enquiries about their requests.

The findings of this study have identified several significant factors in the adoption of 311 government call centers. With the exception of one factor, inclusion in strategic plan, all other factors identified are consistent with the various theories of technology adoption within the public sector. If local government entities that do not have a 311 government call center decide to go down the route of adopting one this study will help them identify the relationships that need to be in place for successful adoption to occur. If based on the findings of this study it is observed that there are significant factors in place that may hinder adoption of a 311 government call center, government officials can do preliminary ground work to mitigate the effects of these factors. Based on the level of re-engineering of business process organizations under take when they adopt a 311 government call center, if organizations are not committed long term to doing this then they should not consider adopting one.

If more cities and counties adopted a 311 government call center the possible implications are huge for both organizations and citizens. If more cities and counties adopted 311 government call centers it would have the potential of making government departments and agencies more responsive to citizens needs. Citizens would have quicker

and easier access to their local government. This in turn may translate into a more satisfied citizen who is more likely to be involved in such civic duties as voting in local municipal elections and attending public meetings.

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Appendix

One Call to City Hall - Government Call Center Survey

One of the latest innovative approaches used by local governments to provide better services to citizens has been to adopt 311 call centers. The purpose of this survey is to identify factors that are significant in the adoption and implementation of 311 call centers. This survey should take no more than **5 to 10 minutes** to complete. Please answer all questions to the best of your ability. Thank you for your time and participation.

Link to online survey - https://fiu.qualtrics.com/SE/?SID=SV_cNHyF5MMwRxrWPa

Q1 Name of City and State_____

Q2 In what type of municipality are you employed?

- ❍ County
- ❍ City
- ❍ Consolidated County and City
- ❍ Other _____

Q3 What is the governmental structure of the jurisdiction to which you are employed?

- ❍ Mayor-Council
- ❍ Council-Manager
- ❍ Council-Administrator
- ❍ Council-Elected Executive
- ❍ Other _____

Q4 What is the population size of your local jurisdiction?

- ❍ 500,000 and over
- ❍ 250,000 to 499,999
- ❍ 100,000 to 249,999
- ❍ 99,999 and under

Q5 Does the local government for which you work have a 311 government call center?

- ❍ Yes (**go to Page 4 and 5**)
- ❍ No
- ❍ We are in the process of implementing a 311 government call center (**go to Page 4 and 5**)

Q6 If your local government does **NOT** have a 311 government call center, is your local government considering implementing one?

- ❍ If Yes, during what time frame?
  - ❍ Within a year from now
  - ❍ 1 - 2 years from now
  - ❍ More than 2 years from now
  - ❍ I don't know
- ❍ No

IF YOUR LOCAL GOVERNMENT DOES NOT HAVE A 311 CALL CENTER COMPLETE ONLY PAGES 2 AND 3

IF YOUR LOCAL GOVERNMENT DOES NOT HAVE A 311 CALL CENTER COMPLETE PAGES 2 AND 3

Q7 How significant do you think the following factors are in explaining why your local government does not have a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
No one to spearhead the project	❍	❍	❍	❍
Difficulty to obtain a 311 designation	❍	❍	❍	❍
No demand from citizens	❍	❍	❍	❍
Lack of access to technical knowledge	❍	❍	❍	❍
No obvious need for one	❍	❍	❍	❍

Q8 How significant do you think the following factors are in explaining why your local government does not have a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
Start-up cost	❍	❍	❍	❍
Annual operating costs (staffing, training)	❍	❍	❍	❍
Lack of access to private and public financing tools (grants and bond issues)	❍	❍	❍	❍
Unavailability of funding	❍	❍	❍	❍

Q9 How significant do you think the following factors are in explaining why your local government does not have a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
Lack of support from elected officials	❍	❍	❍	❍
Lack of support from administrative staff	❍	❍	❍	❍
Lack of active involvement of top management	❍	❍	❍	❍
Lack of pressure from another agency	❍	❍	❍	❍
Absence of Chief Information Officer	❍	❍	❍	❍
Lack of ability to collaborate with other agencies	❍	❍	❍	❍

Q10 How significant do you think the following factors are in explaining why your local government does not have a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
Local government strategic plan does not call for a 311 call center	❍	❍	❍	❍
Citizen satisfaction is not a priority	❍	❍	❍	❍
Commitment to improve services to citizens is not a priority	❍	❍	❍	❍
Lack of public expectations for better customer service	❍	❍	❍	❍
Concern about tracking and measuring of agency performance	❍	❍	❍	❍

Q11 Using the space provided please identify any other factors that you think might explain the non-adoption of a 311 government call center by your local government?

_____

_____

_____

_____

_____

_____

Q12 How many years have you been employed in your current position?_____

Q13 What type of position do you currently hold?

❍ Supervisory
❍ Non-supervisory

ANSWER ONLY IF YOU HAVE A 311 GOVERNMENT CALL CENTER!!!

Q14 In what year was your 311 government call center adopted? _____

Q15 Does your centralized call center cover more than one local government?

- ❍ If Yes, how many? _____
- ❍ No

Q16 In the process of adopting and implementing a 311 government call center which of the following stages best describes the status of your call center?

- ❍ All agencies and departments still take their own calls
- ❍ We are in the planning and development stage
- ❍ We have the 311 designation but have not gone live
- ❍ We have the 311 designation and a centralized call center
- ❍ We have a different number and a centralized call center

Q17 In the case of your local government how significant were the following factors in the adoption and implementation of a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
A technology savvy elected official to champion the innovation	❍	❍	❍	❍
A politically savvy citizen to champion the innovation	❍	❍	❍	❍
A private vendor to shepherd the technology through to implementation	❍	❍	❍	❍
A public sector employee to champion and oversee the technology through to implementation	❍	❍	❍	❍

Q18 In the case of your local government how significant were the following factors in the adoption and implementation of a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
Availability of funding	❍	❍	❍	❍
Access to private and public financing tools such as grants and bond issues	❍	❍	❍	❍
Presence of existing resources to put together call center	❍	❍	❍	❍
Services can be provided at a lower cost	❍	❍	❍	❍
Funding provided for in Strategic Plan	❍	❍	❍	❍

Q19 In the case of your local government how significant were the following factors in the adoption and implementation of a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
Support from Mayor	❍	❍	❍	❍
Support from other elected officials	❍	❍	❍	❍
Support from administrative staff	❍	❍	❍	❍
Active involvement of top management	❍	❍	❍	❍
Pressure from another governmental agency	❍	❍	❍	❍
Presence of Chief Information Officer	❍	❍	❍	❍
Cross agency collaboration	❍	❍	❍	❍

Q20 In the case of your local government how significant were the following factors in the adoption and implementation of a 311 government call center?

	Very Significant	Significant	Somewhat Significant	Not Significant
311 call center contributes to mission or vision statement	❍	❍	❍	❍
Citizen satisfaction is a priority	❍	❍	❍	❍
Commitment to improve service to citizens despite cost	❍	❍	❍	❍
Public expectations of better customer service	❍	❍	❍	❍
Tracking and measuring agency performance	❍	❍	❍	❍
Demand from Citizens	❍	❍	❍	❍

Q21 Using the space provided please identify any other factors that you think might contribute to the adoption and implementation of a 311 government call center by your local government.

_____

_____

Q22 How many years have you been employed in your current position? _____

Q23 What type of position do you currently hold?

❍ Supervisory
❍ Non-supervisory

THANK YOU FOR COMPLETING THIS SURVEY!!!

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