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User Adoption of Enterprise Resource Planning Systems in the Public Sector

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Abstract

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by

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MS, Embry-Riddle Aeronautical University, 2011

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

The importance of aligning information technology and business strategies to exploit capabilities and change business practices has increased as firms strive for competitive advantage in a diverse and changing marketplace. Nevertheless, over 50% of firms implementing enterprise resource planning (ERP) systems ranked expected process and value enhancements as inadequate, whereas only 13% indicated that implementations met their needs. The unified theory of acceptance and use of technology (UTAUT) model formed the conceptual framework of this single case study. The study comprised a purposeful sampling of 8 business managers in Southeast Alabama working in related job roles and based on established eligibility criteria. Data collection involved semistructured interviews, casual observations, and document analysis. Through method triangulation and predetermined themes directly related to the UTAUT conceptual framework, 5 themes emerged: management endorsement, change management, training and education, dedicated resources, and governance. Results of this research may influence the elimination of key barriers central in the deployment and adoption of ERP systems by the public sector. The study's implications for positive social change include the potential to enhance social and intellectual capital formation through recognizing strategies that mitigate employees' gender and age variances during an ERP implementation.

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Dedication

To my loving wife, Artema, who is my strength and my rock. Your support and inspiration have been immeasurable throughout this journey. To my children, Lionel Jr. and Ametra, who continuously provided motivation to ensure I accomplished my goal.

Acknowledgments

First and foremost, I have to thank my Lord and Savior Jesus Christ, for blessing me with the knowledge, strength, and perseverance to complete this journey. Immeasurable thanks to my family, without whose support this would not be possible. I acknowledge my chair, Dr. Wen-Wen Chien, who has been an astonishing inspiration throughout this challenging process. I also acknowledge Dr. Roger Mayer and my committee members, Dr. Lazo and Dr. Land, for the challenging deliverance of doctoral work. Thank all of you for your professional guidance and feedback throughout this process.

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Section 1: Foundation of the Study

Supply chain management (SCM) activities related to analytics, data allocation, and expenditure reduction proposals rely on information technology (IT; Cao, Gan, & Thompson, 2013). Within the SCM framework, IT implementation decisions are difficult (Estampe, Lamouri, Paris, & Brahim-Djelloul, 2013). Consequently, in-depth understanding of IT adoption dynamics by managers is imperative (Mutingi, 2014). Business managers perceive enterprise resource planning (ERP) systems as vital tools for competitive advantage, as ERP integrates dispersed organizational systems and enables flawless transactions and production (Shaul & Tauber, 2013).

Organizations gain numerous benefits from effectively implementing ERP systems, including inventory reduction, integrated customer service, regulated production processes, and integrated fiscal data (Zhang, Huang, & Xu, 2012). Implementing ERP systems is a difficult task, and countless adopters have encountered diverse dilemmas (Petter, DeLone, & McLean, 2013). In some cases, ERP implementation initiatives fail (Sar & Garg, 2012). Users' resistance is one of the main causes of ERP implementation failure (Vasarhelyi, Alles, Kuenkaikaew, & Littley, 2012). The purpose of this qualitative single case study was to explore strategies public sector business managers use to successfully lead an ERP system implementation.

Background of the Problem

Business executives experience the influence of ERP systems on a global scale (Zeng & Skibniewski, 2013). The development and use of technologies such as ERP systems are subject to social, cultural, organizational, technical, and other institutional

pressures (Pishdad & Haider, 2013). Aligning IT and business strategies to exploit capabilities and change business has increased in importance as firms strive for competitive advantage in a diverse and changing marketplace (Revenaugh & Cook, 2013). Nevertheless, over 50% of ERP-implementing firms ranked expected process and value enhancements as inadequate, whereas only 13% indicated that implementations met their needs (Bernroider, Wong, & Lai, 2014).

Employees' resistance to new IT adoption is a fundamental barrier to successful IT adoption (Rizzuto, Schwarz, & Schwarz, 2014). User resistance is frequently a significant dynamic in the outcome of a large-scale system implementation; understanding the motors of change can lead to a better understanding of the emergence of user resistance (Klaus & Harris, 2013). Zamani (2014) identified user resistance as a major factor that influences the integration of information and communication technology (ICT). As managers seek to replace antiquated legacy systems, modernize business processes, and enhance supply chains, user acceptance research on recent ERP implementations is necessary.

Problem Statement

ERP implementation failures can be financially devastating for public sector organizations (Céu Alves & Matos, 2013). Over 60% of ERP implementations result in failure, with losses ranging from $6 million to over $100 million, and some organizations even going out of business (Maas, van Fenema, & Soeters, 2014). The general business problem is public sector business leaders' inability to implement ERP systems effectively, which results in a loss of efficiency and profitability. The specific business

problem is that some public sector business managers lack strategies to successfully lead an ERP system implementation.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies that public sector business managers use to successfully lead an ERP system implementation. The target population included business managers who were directly involved in a successful ERP implementation in a public sector organization in Southeast Alabama. Research outcomes may contribute to social change by aiding business managers in recognizing the significance of technology acceptance during an ERP system implementation within a public sector organization and plan accordingly to enhance the likelihood of organizational sustainability and profitability. Results of the study may also influence social change by identifying implementation strategies that enhance user gratification and encourage use.

Nature of the Study

There are three primary research methods: (a) qualitative, (b) quantitative, and (c) mixed methods (Mitchell & Jolley, 2012). I chose a qualitative methodology for this study. Qualitative research involves exploring a social phenomenon and generating words, rather than numbers, as data for analysis (Neuman, 2013). Morgan (2013) indicated that a quantitative methodology employs mathematical models, theories, or hypotheses pertaining to phenomena; therefore, a quantitative methodology was inappropriate for this study. A mixed methodology was also inappropriate because it would have involved mixing qualitative and quantitative data (Caruth, 2013).

I used a single case study research design in my study. The purpose of a case study design is to explore a bound case by comprehensively gathering data from different sources (Yin, 2014). I explored a specific bound problem in a single organization, which was the successful implementation of an ERP system. Thus, a single case study design was appropriate for my research goals. I considered and rejected other designs, including phenomenological and ethnographic. Petty, Thomas, and Stew (2012) suggested that the emphasis in phenomenological analysis is on recognizing people's exclusive lived experiences by exploring the significance of a phenomenon. Likewise, Chan, Walker, and Alan (2015) argued that phenomenology is most suitable when the objective is to explore, comprehend experiences, and discover meaning. Similarly, Lakew and Lindblad-Gidlund (2015) advocated phenomenology as an appropriate and reliable framework for studying human experiences with established technologies incorporated into daily life. Ethnography entails the exploration of a culture or social grouping (Marshall & Rossman, 2015). With these designs, I would not have met my goal of exploring a bound case of ERP implementation.

Research Question

The overreaching research question for this study was the following: What strategies do public sector business managers use to successfully lead an ERP system implementation?

Interview Questions

The unified theory of acceptance and use of technology (UTAUT) model as developed by Venkatesh, Morris, Davis, and Davis (2003) provided a guide for the

creation of interview questions based on each model construct. Interviews consisted of open-ended questions directly linked to UTAUT constructs and moderators. The questions were as follows:

1. What strategies were employed to encourage the belief that using the ERP system would enhance job performance (performance expectancy)?
2. What activities were employed to enhance the ease associated with using the system (effort expectancy)?
3. How were peer (friends, coworkers) or domestic influences (relatives) related to acceptance of the new technology (social influences) managed?
4. What strategies were employed to ensure the existence of organizational and technical infrastructure (such as tech support) to support using the new system (facilitating condition)?
5. How were end users encouraged to consciously continue using the system?
6. What were your strategies to enhance male versus female users' desire to consciously adopt the system?
7. What strategies were employed to encourage older versus younger users to consciously desire to adopt the system (age)?
8. What strategies did you employ to address experienced versus inexperienced users' anxiety associated with using the system?
9. What strategies were employed to mitigate users' anxiety associated with the mandated use of the system?

10. Is there anything else you wish to add that I did not cover in the previous questions?

Conceptual Framework

The conceptual framework employed was the UTAUT developed by Venkatesh et al. (2003). The UTAUT framework was appropriate for my research because the components of the framework helped to frame my understanding of the business process. Key constructs underlying the theory are (a) performance expectancy, (b) effort expectancy, (c) social influence, and (d) facilitating conditions (Venkatesh et al., 2003). The first three constructs are direct factors of acceptance and conduct, and the fourth construct is a direct cause of implementation behavior (Venkatesh et al., 2003). Additionally, UTAUT posits the role of four key moderator variables: gender, age, experience, and voluntariness of use (Venkatesh et al., 2003).

Attaining the projected degree of IT use is one of the main determinants of implementation achievement because system use is an indication of users' acceptance of the system (Staehr, Shanks, & Seddon, 2012). Marshall and Rossman (2015) indicated that a conceptual framework establishes the organization of information so that readers can clearly comprehend the true significance of a study. As applied to this study, the conceptual framework helped me to frame specific components of the bound case related to public sector organization strategies for successful ERP system implementation.

Definition of Terms

End user: An individual who will be employing a product for an explicit reason (Ruivo, Johansson, Oliveira, & Neto, 2013).

Enterprise resource planning (ERP) systems: Integrated computer systems that control diverse operational tasks of every division within organizations (Chou, Lin, Lu, & Chou, 2014a).

Legacy systems: Computer systems passed down by an antecedent or deemed a previous information system adaptation (Saini, Nigam, & Misra, 2013).

Mandatory usage: An environment in which users are required to use a specific technology or system to perform their jobs (Liu et al., 2014).

Perceived ease of use (PEU): The degree to which a potential adopter views usage of the target technology to be relatively free of effort (Hess, McNab, & Basoglu, 2014).

Perceived usefulness (PU): The extent to which a potential adopter views the innovation as offering value over alternative ways of performing the same task (Hess et al., 2014).

Technology acceptance model (TAM): An information systems theory that proposes several factors affecting users' choice regarding how and when they employ technological innovation (Edmunds, Thorpe, & Conole, 2012).

Usage: Current use of a system (Al-Qeisi, Dennis, Alamanos, & Jayawardhena, 2014).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions relate to unapparent or inconclusive dynamics (Neuman, 2013). Assumptions represent acknowledged factors that may be influential (Marshall &

Rossman, 2015). I used open-ended semistructured interview questions and document review to explore specific strategies related to ERP system implementation in public sector organizations. An assumption was that the participants would respond to interview questions truthfully. First, I assumed that successful ERP implementation enhances organizational efficiency and profitability. Next, I assumed that each participant was aware that he or she was employing an ERP system and would openly answer questions without apprehension of retribution. Additionally, I assumed that the documentation I reviewed was relevant to the implementation process. The final assumption was that participants had information that created value for the purpose of this study.

Limitations

Limitations represent deficiencies, circumstances, or influences beyond a researcher's control that place constraints on the research method and outcomes (Silverman, 2013). Over time, employees' concept of an ERP implementation may change, altering their perception of the influences (Silva & Fulk, 2012). Despite the reporting of the validity and reliability of the UTAUT from prior studies, it was possible that the conceptual framework would not be applicable to this study's target group due to personal context differences. Cultural differences could represent another limitation of the study.

Delimitations

Delimitations describe the constraints of a research study that the researcher imposes, including the population, sample, and instrumentation (Merriam, 2014). Researchers impose delimitations before starting a study to narrow the scope based on the

context of the inquiry and the participants (Barbour, 2013). Studying only public sector organizations restricted the scope of this study. Data collected from a relatively small sample limit generalizations to larger populations. Participants comprised a purposive sample of subjects with direct involvement in the implementation. I did not interview all employees from all of the divisions within the organization. Because of limited interaction with participants, the unknown knowledge level of the targeted population may have affected the findings.

Significance of the Study

Contribution to Business Practice

The study is important because it explored strategies for successful ERP system implementation. Successfully ERP implementations can positively influence nearly all organizational tasks (Ahmad & Cuenca, 2013). Thomas, Babb, and Spillan (2012) described the significance of user acceptance throughout the implementation process and claimed that numerous ERP system failures were due to executives' underestimation of the importance of the implementation initiative.

Kim, Cavusgil, and Cavusgil (2013) indicated that IT alignment must focus on customers who recognize the value created by use. Data from this research may influence the elimination of primary barriers central in the deployment and adoption of ERP systems by the public sector. The adoption of ERP systems has implications for social change, in that these systems may provide better decision-making capability to public sector management concerning the values of ERP. Successful implementations of ERP systems provide significant organizational benefits (Ram, Wu, & Tagg, 2014).

Organizational benefits comprise lowered expenditures, reduced inventories, enhanced productivity, enhanced operational effectiveness, achieving competitive advantage, and enhancing the restructuring of central resources (May, Dhillon, & Caldeira, 2013). Study outcomes might aid in filling comprehension gaps related to user acceptance of ERP systems. With ERP systems, innovation and transformation are unavoidable. Consequently, leaders' comprehension is vital to ensure implementation success. Results of the study may influence business practice by enhancing organizational leaders' knowledge in promoting the complete integration of people and innovative technologies. Such changes might result in enhanced firm performance, knowledge distribution, and improved efficiency.

Implications for Social Change

Managers must consider tactical objectives when choosing ERP systems. Ignoring fundamental dynamics could hamper successful implementation of innovative systems. Deokar and Sarnikar (2014) indicated that evoking positive social change requires mission, vision, and value statements related to the overall organizational stratagem. ERP implementation encompasses more than simply an innovative software package; it includes every organizational characteristic (Caya, Leger, Grebot, & Brunelle, 2014). Additionally, successful implementation involves converting the approach into aims conveyed to every employee (Chen et al., 2014). Managers are conscious that they must employ innovative technologies such as ERP to enhance competitive advantage; nevertheless, countless ERP systems fail (Ghobakhloo, Hong, Sabouri, & Zulkifli, 2012). Using the UTAUT model also provides significant findings related to acceptance and

usage disparities between gender and age. Results of the study might influence social change by enhancing the identification of usage differences demonstrated by people of diverse gender and age. Such changes might result in implementation strategies that enhance user gratification and encourage usage.

A Review of the Professional and Academic Literature

The primary purpose of this qualitative single case study was to explore strategies public sector business managers used to successfully lead an ERP system implementation. The UTAUT theory developed by Venkatesh et al. (2003) defined the conceptual framework of my study. The literature review covers the broad topics of ERP systems and technology acceptance factors that create problems during the postimplementation phase.

Literature Review Research Strategy

An exploration of the literature for peer-reviewed journal articles, dissertations, scholarly books, and research documents started within Walden Library's Internet search engines EBSCOhost, ProQuest, IEEE Xplore Digital Library, and Walden Library EBooks. The review involved an assortment of key search terms such as *enterprise resource planning implementation, enterprise resource planning risk management, enterprise resource planning maintenance and support, enterprise resource planning knowledge management, enterprise resource planning training, enterprise resource planning culture, enterprise resource planning postimplementation, unified theory of acceptance and use of technology model, UTAUT, case study, qualitative method,* and *supply chain management*. The search engine generated more results when I used the

complete term *enterprise resource planning* rather than the abbreviation *ERP*.

The single case study involved the use of 350 references. Resources published between 2012 and 2016 amount to 330 sources, or 94% of the total references. The number of references in the literature review is 232. Of these, 217 or 94% were peer reviewed. Data and support came from journals and seminal works such as texts, along with conference proceedings and organizational reports located on the Internet. Pekkola, Niemi, Rossi, Ruskamo, and Salmimaa (2013) described extant ERP implementation research as being only occasional and chaotic and demanded expanded research. My study was an attempt to answer the call for more research by delving into the case study framework of ERP implementation and IT acceptance research. Four main themes guided the literature review: (a) UTAUT, (b) ERP systems, (c) user acceptance, and (d) supply chain and IT significance. I provide a comprehensive review of related literature that describes and highlights its inherent significance to each segment of my research.

To comprehend user conduct toward IT, a review of technology acceptance theories is crucial. Extant literature contains several models for assessing user acceptance of new technology; the UTAUT is the most widely cited and employed model (Gruzd, Staves, & Wilk, 2012). Subsequent paragraphs comprise a review of Venkatesh's (2003) original study, UTAUT model constructs and mediators, UTAUT applications exploring ERP systems implementation acceptance, and UTAUT strengths and limitations.

Unified Theory of Acceptance and Use of Technology (UTAUT)

Theories and models have played a critical role in ICT adoption research

(Dwivedi et al., 2015). Ideologies and paradigms establish research design and outcome interpretation guidelines (Wahyuni, 2012). Concept application comprises three characteristic roles: as a research design and data gathering paradigm, as part of a continuous data gathering and evaluation process, and as a final product of research (Myers, 2013). Concepts and paradigms comprise the beginning stage of ICT adoption and usage research to standardize the research and interpret the outcomes within a positivist perspective (Xiao, Califf, Sarker, & Sarker, 2013). Venkatesh et al. (2003) developed the UTAUT model by integrating eight existing theories related to technology reception and implementation. The UTAUT of Venkatesh et al. (2003) is a reception and acceptance model that examines people's adoption decision and innovation behaviors. Exploration of behavioral intention and technology acceptance using UTAUT has drawn academics' attention and encompassed diverse settings (Lu, 2014).

UTAUT origin. Martins, Oliveira, and Popovic (2014) argued that the study of technology acceptance encompasses numerous rival theories with diverse acceptance factors. Hsu (2012) stated that popular theories included the theory of reasoned action (TRA), the theory of planned behavior (TPB), the model of PC utilization (MPCU), the motivational model (MM), a model integrating the technology acceptance model and the theory of planned behavior (C-TAM-TPB), innovation diffusion theory (IDT), social cognitive theory (SCT), and the technology acceptance model (TAM). Nevertheless, no comprehensive tool existed to measure the diversity of perceptions until the development of the UTAUT, which evolved from a review and consolidation of the above eight extant models (Oye, Iahad, & Rahim, 2014).

Psychoanalysts developed TRA to examine cognizant behavioral intention (Fishbein & Ajzen, 1975). According to TRA, a person's intent to perform an activity drives the person's actual conduct. Core TRA constructs comprise attitudes toward behavior and subjective norms (Fishbein & Ajzen, 1975). The TRA has been extremely prominent and has been applied to a variety of behaviors, including those related to health (Sivell, Elwyn, Edwards, & Manstead, 2013). Zhou (2012) used TRA to examine the adoption of Internet banking services in China based on a survey of 200 mobile users. Outcomes were consistent with preceding studies of behavior indicating that consumers had significant intentions to adopt Internet banking services (Zhou, 2012). Srisawatsakul and Papasratorn (2013) examined factors influencing consumers' intention to accept mobile broadband services with add-on advertising through an extended TRA model. Outcomes based on 61 responses through a 2-week timeline revealed that attitude toward mobile advertising and subjective norms had a weak influence on user intent to accept add-on advertising. Perceived value had a stronger influence than other suggested elements (Srisawatsakul & Papasratorn, 2013).

The TPB is an expansion of TRA that involves perceived behavior management. According to the TPB, the control that people have over their behavior exists on a continuum from easily performed behaviors to those requiring considerable effort and resources (Ajzen, 1991). Key TPB constructs are attitude towards behavior, subjective norm, and perceived behavioral control. Extant TPB literature addresses a wide range of intentions and behaviors (Zamani-Miandashti, Memarbashi, & Khalighzadeh, 2013). Dunstan, Covic, and Tyson (2013) used TPB to recognize factors influencing the

imminent work expectancies and results of workers with musculoskeletal injuries. Outcomes indicated that the model met psychometric requisites where attitude, subjective norm, and perceived behavioral control described 76% of the change in behavioral intention (Dunstan et al., 2013). The strength of key influences on expectation varied according to work status but comprised the accessibility of amended duties, socio-occupational aspects, the physician's views, workmate support, pain, and functional constraints (Dunstan et al., 2013). The TPB has efficiently forecasted acceptance of several diverse technologies (Teo, 2014). Al-Debei, Al-Lozi, and Papazafeiropoulou (2013) employed an extended TPB involving a perceived value construct to examine continuance participation intentions and behavior on Facebook based on a survey of 403 undergraduate and postgraduate students in Jordan. Results indicated that attitude, subjective norm, perceived behavioral control, and perceived value had a significant effect on the continuance participation intention of postadopters (Al-Debei et al., 2013). Additionally, continuance participation intention and perceived value had a significant effect on continuance participation behavior, whereas the effect of perceived behavioral control was insignificant in relation to the continuance participation behavior of postadopters (Al-Debei et al., 2013).

Thompson, Higgins, and Howell (1991) developed the MPCU to forecast personal computer use within an intermediate systems framework. Fundamentally, the MPCU evolved from ethnological conduct philosophy and reflects views opposed to those of TRA and TPB. However, the nature of the model makes it particularly suitable for predicting individual acceptance and use of a range of information technologies. Key

MPCU constructs are work suitability, convolution, lasting concerns, affects concerning utilization, communal dynamics, and facilitating conditions (Thompson et al., 1991). Ekawati and Hidayanto (2011) used MPCU to explore empirical evidence of a relationship and influence between antecedent factors of IT implementation and organizational performance. Outcomes revealed a positive relationship between attitude, facilitating conditions, system complexity, and organizational performance; however, only attitude and facilitating condition were influential (Ekawati & Hidayanto, 2011). Negash (2012) used MPCU to explore the perceptions of 228 youth from Ethiopia and Rwanda concerning the factors that influence PC usage based on demographic data consisting of age, gender, grade level, region, and prior experience. Results indicated that providing access to PCs at least three times a week and providing structured computer training were key factors for increased PC usage (Negash, 2012).

A significant body of research employing psychology as a descriptor of behavior sustains MM (Davis, Bagozzi, & Warshaw, 1992). Several studies have examined motivational theory and adapted it to specific contexts. Key MM constructs are extrinsic motivation and subjective norm (Davis et al., 1992). Choi, Choi, and Kim (2012) used MM to explore the intrinsic or extrinsic motivations that drive trust and satisfaction in using smartphone applications based a sample of 231 smartphone users, which revealed that extrinsic motivation factors were more influential in building trust than intrinsic motivation factors were. Arbore, Graziani, and Venturini (2014) identified three types of users by employing MM to study the motives for adopting personal technologies via latent class analysis. Results indicated that value drivers, control beliefs, and normative

beliefs play different roles in determining smartphone acceptance, depending on three different individual characteristics (i.e., playfulness, public self-consciousness, and innovativeness).

The C-TAM-TPB combines the predictors of TPB with perceived usefulness from TAM to supply a hybrid model (Taylor & Todd, 1995). Core constructs are attitude toward behavior (ATB), subjective norm, perceived behavioral control (PBC), and perceived usefulness (Taylor & Todd, 1995). Pynoo et al. (2012) used C-TAM-TPB to examine teachers' acceptance and use of an educational portal based on usage data collected from the portal's database on two separate occasions: at survey completion (T1) and 22 months later (T2). Results indicated that C-TAM-TPB predictor variables influenced teachers' portal acceptance, but their significance level varied depending on user type (Pynoo et al., 2012). Tseng, Tu, Lee, and Wang (2013) employed C-TAM-TPB to study factors affecting consumers' intentions to use and adopt satellite navigation fleet management systems in Taiwan. Results indicated that PEU, attitude, PBC, usefulness, and subjective norm influenced an individual's behavioral intention (Tseng et al., 2013). Pynoo and van Braak (2014) employed C-TAM-TPB to investigating the link between acceptance and different aspects of actual usage of an educational portal based on both the open and generative usage behavior of 864 teachers, collected on two occasions. Results indicated that attitude, intention, and self-reported use predicted open usage, but these personally conveyed actions failed to describe generative usage (Pynoo & van Braak, 2014).

The IDT seeks to explain the process by which users adapt technological

advances by providing a structure that enables the prediction of technology acceptance timelines (Rogers, 1995). Core constructs represent the features of the technological innovation, the communication networks, and adopters' characteristics, which consist of relative advantage, ease of use, image, visibility, compatibility, results in demonstrability, and voluntariness of use (Rogers, 1995). Within this framework, one member of a social system passes the concept of a new idea to another (Rogers, 1995). Since the 1960s, IDT research has involved diverse topics such as agricultural tools and organizational innovation (Brown, Venkatesh, & Hoehle, 2014). Wang, Wu, Lin, Wang, and He (2012) employed IDT to explore the factors influencing Web ATM usage based on a population of 285 Taiwanese respondents. Outcomes indicated that perceived relative advantage, perceived complexity, perceived compatibility, perceived uncertainty, and perceived transaction frequency were significant factors in users' adoption (Wang et al., 2012). Al-Jabri and Sohail (2012) used IDT to examine the factors influencing mobile banking adoption in Saudi Arabia based on a sampling of 330 actual mobile banking users. Results indicated that relative advantage, compatibility, and observability positively influenced adoption (Al-Jabri & Sohail, 2012). However, in contrast to existing literature, trialability and complexity were insignificant, and perceived risk had a negative impact (Al-Jabri & Sohail, 2012).

The SCT is one of the most comprehensive theories of human behavior (Bandura, 1986). The SCT emphasizes the role of self-referent thinking in guiding human motivation and behavior. Key constructs are outcome expectations-performance, outcome expectations-personal, self-efficacy, affect, and anxiety (Bandura, 1986).

Compeau and Higgins (1995) extended and applied SCT within a computer utilization context. Computer self-efficacy is a special application of the most general construct of self-efficacy, which is a key element of SCT. Shu, Tu, and Wang (2011) used SCT to develop a conceptual model to study computer-related technostress as a consequence of computer self-efficacy and technology dependence. Outcomes indicated that workers with higher computer skill levels had lower computer-related stress, whereas workers with lower computer skill levels had higher computer-related stress (Shu et al., 2011). Burke and Mancuso (2012) employed SCT to explore metacognition and simulation learning in nursing education. Results indicated that applying SCT establishes a distinct scenario that sustains contributors' mastery of technical skills, the sensitivity of assessment skills enhancement, the promotion of suitable mediations to meet patient needs, and the grooming of communication expertise, in addition to supporting role identity and collaborative practice (Burke & Mancuso, 2012).

The TAM predicts IT acceptance and usage related to labor, but unlike TRA, the final conception of TAM does not include the attitude construct; this is for purposes of concision (Davis, 1989). The TAM consists of two elements that determine a user's intention to accept and use technology: perceived usefulness (PU), which involves how a new system may enhance the user's work performance, and perceived ease of use (PEU), which involves how it may result in less effort (Davis, 1989). The TAM is one of the most highly recognized models in existing literature, with over 15,000 Google references (Bagozzi & Yi, 2012). The TAM has been efficient in explaining user behavior across a broad range of technological populations (Rahman, Jalil, Abdullah, & Robel, 2014).

Existing literature confirms the adoption of the TAM with the foundation of the theory of reasoned action (Suryaningrum, 2012). Rahman et al. (2014) employed TAM to examine Malaysian consumers' acceptance of e-shopping based on a survey of 255 participants. Results supported Davis's (1989) view that usage attitude only contributes to the TAM discreetly. Hsu (2012) discovered that a significant relationship existed between technology adoption and the enhancement of organizational performance. Moreover, outcomes indicated that the additional capabilities of technology aid organizational leaders in determining essential value-creating elements (Hsu, 2012). Kim (2012) employed TAM in an online shopping situation, which offered a dissimilar viewpoint. Outcomes indicated the significance of ease of use and suggested that TAM offered a method of establishing confidence and attracting consumers to online shopping websites (Kim, 2012).

The original TAM did not include the influence of collective and resistor dynamics (Abraham, Boudreau, Junglas, & Watson, 2013). Venkatesh and Davis (2000) proposed an extension of TAM, the TAM2 comprising social influence process such subjective norm and cognitive instrumental processes such as occupational significance, production value, and outcome certainty. Social factors included subjective norms, voluntariness, and image, and perceptive factors included occupational significance, production quality, outcome certainty, and PEOU. Wong et al. (2012) employed and validated the TAM2 as a feasible model to evaluate technology acceptance in elderly populations. This research validated the importance of considering individual and group technology adoption factors (Wong et al., 2012). A review of the various contexts and

measurement of the dependability and soundness of each construct from every model revealed that each model exhibited individual limitations, while the UTAUT offered a more comprehensive explanation of technology acceptance (Venkatesh et al., 2003).

Both TRA and TPB have some limitations in predicting behavior (Ajzen, 2012). The first limitation is attitudes, subjective norms, and perceived behavioral control intention determinants do not limit intention determinants (Ajzen 1991). Extant studies disclosed several constraints within the TRA and TPA frameworks (Ajzen 1991; Ajzen 2012). For instance, TRA or TPB explicated 40% of variance of conduct, while a gap existed related to the time between behavioral intention valuation and tangible performance evaluated (Ajzen 2012). Additionally, both TRA and TPB were described as prognostic models only capable of forecasting individual exploit based on certain conditions (Ajzen 2012).

However, individuals do not always behave as predicted by those criteria (Ajzen, 2012). Armitage and Conner (2001) analyzed 185 studies available up to the end of 1997 and revealed attitude towards the behavior, subjective norm, and perceived behavioral control in the TPB accounted 27% and 39% of the variance in behavior and intention, respectively. However, individuals do not always behave as predicted by those criteria (Ajzen, 2012). Armitage and Conner (2001) analyzed 185 studies available up to the end of 1997 and revealed attitude towards the behavior, subjective norm, and perceived behavioral control in the TPB accounted 27% and 39% of the variance in behavior and intention, respectively. In a study of Malaysian consumers, Rahman et al. (2014) found the PEU and subjective norm incidentally influenced behavioral intention to use

technology via attitude towards use and PU, respectively. Researchers concurrently used TAM and its expansions (Venkatesh & Balal, 2008; Venkatesh & Davis, 2000) as instruments to examine users' acceptance of technological innovations (Lallmahomed, Rahim, Ibrahim, & Rahman, 2013). However, it became obvious the TAM could only predict technology acceptance in 40% of the cases (Venkatesh & Davis, 2000). Results indicated the need for a comprehensive instrument to measure the variety of perceptions of information technology innovations (Venkatesh et al., 2003).

Each of the models mentioned above intends to describe user conduct and acceptance of new technology with a range of independent constructs; in effect, the relationships of these independent constructs from each model form the basis of UTAUT. Additionally, researchers employed the UTAUT basic dynamic structure as a useful tool to evaluate the adaptation levels of various technologies to estimate the success probability of a new technology (Venkatesh et al., 2003). Extant studies suggested UTAUT is the yardstick and the most extrapolative model in the technology acceptance literature (Kim, 2014; Sun & Qu, 2014; Ramdani, Chevers, & Williams, 2013). Various technologies tested by UTAUT on different masses are technological tools such as tablet computers (Ifenthaler & Schweinbenz, 2013), mobile commerce (Chong, 2013), healthcare websites (Sun & Lu, 2014), Moodle or content management systems (Hsu, 2012). In addition, studies evaluating new learning environments, such as mobile learning (Hwang, Brzycki, & Powers, 2014) and virtual learning environments (Olson, Appunn, McAllister, Walters, & Grinnell, 2014).

The UTAUT was also appropriate for organizations to identify the level of

workers' drive during innovative software adoption (Yoo, Han, & Huang, 2012). Oliveira, Faria, Thomas, and Popovič (2014) considered UTAUT as a prominent theory within the IS acceptance framework and employed it to conceptualize a model to evaluate agile IS adoption. Likewise, Lakew and Lindblad-Gidlund (2015) highlighted emergent concentration in interpretive approaches to socio-technological relationships despite technology acceptance research have been traditionally influenced by quantitative and experimental methodologies. Similarly, Nieboer, Van Hoof, Van Hout, Aarts, and Wouters (2014) employed a UTAUT-based A qualitative phenomenological approach with open and semistructured interviews to explore health care professionals' perceptions and values regarding successful technology implementing. Collectively these specifics suggest the UTAUT would be applicable for exploring strategies public sector business managers use to successfully lead an ERP system implementation.

UTAUT constructs. Based on their review, Venkatesh et al. (2003) acknowledged seven constructs ultimately influenced use behavior by influencing behavioral intention. Venkatesh et al. used these seven constructs to form four core measures: performance expectancy, effort expectancy, social influence, facilitating conditions; as well as four control variables: gender, age, experience, and voluntariness of use.

Performance expectancy is the level to which an individual thinks that employing the system will support their work, comprising five sub-measures: perceived usefulness, job-fit, extrinsic motivation, relative advantage, and outcome expectation (Venkatesh et al., 2003). Specifically, these five constructs determine the degree to which people

believe technology use will enhance their work (Venkatesh et al., 2003). Extrinsic motivation relates to the external motivators, such as enhanced job performance, salary or promotions (Hsu, 2012). Job-fit surrounds how technology can improve a person's performance (Pardamean & Susanto, 2012). Relative advantage relates to advantages technological innovation may convey corresponding to the achievements of previous systems (Kohnke, Cole, & Bush, 2014). Outcome expectancy spotlights behavioral outcomes; categorized as work achievement and individual anticipations linked with personal ambitions (Sharma & Kumar, 2012). Venkatesh et al. (2003) established that the PE significantly influenced ERP systems usage, and PEU was the best predictor of ERP end-user satisfaction by Nwankpa and Roumani (2014). Venkatesh et al. (2003) characterized performance expectancy as the level to which a person deems that employing the system will aid in job performance enhancement. Moghavvemi and Salleh (2014) who established that end-users are more interested in whether an ERP system can aid in daily job performance than with its abilities to assimilate information confirm this definition. Montazemi and Saremi (2013) sustained this proposition and suggested relative advantage as being more precise than perceived usefulness. This perception will influence users' attitude to adopt and, in turn, influence their intentions for actual use of ERP in public sector organizations. Accordingly, I asked the following interview question to explore this theme:

Q1: What strategies were employed to encourage the belief that using the ERP system would enhance job performance?

Effort expectancy is the degree of the ease of use when an individual employs the

system, comprising three sub-measures: perceived ease of use, ease of use, and complexity (Venkatesh et al., 2003). The aim of perceived ease construct is to analyze the degree a user believes it additional endeavor to employ specified technology (Tan, Ooi, Leong, & Lin, 2014). Complexity characterizes a state in which users view an innovative system as a correspondingly more difficult device to comprehend and employ (Kohnke et al., 2014). Ease of use describes the deemed complexity of employing an innovation (Hsu, 2012). Effort expectancy plays a major role equally in deliberate and compulsory adoption but lacks significance in subsequent use since users who employ the technology subsequent time or more are familiar with system operations (Pardamean & Susanto, 2012). Sun and Jeyaraj (2013) confirmed that perceived ease of use influenced behavioral intention to use the ERP system through influencing perceived usefulness. These two perceptions will influence users' attitude to adopt and, in turn, influence their intentions for actual use of ERP in public sector organizations. Accordingly, I asked the following interview question to explore this theme:

Q2: What activities were employed to enhance the ease associated with using the system?

Social influence classifies the degree to which others around them influence users, comprising three sub-measures, influence individuals: social factors, subjective norm, and image (Venkatesh et al., 2003). The social factor constructs characterize circumstances where individuals choose to accept technology due to social-situational influence (Tan et al., 2014). Subjective norm relates to whether an individual considers accepting an innovation as significant (Pardamean & Susanto, 2012). The image

construct highlights the degree of perception that employing an innovation improves one's image or status in a social system (Sharma & Kumar, 2012). Extant evidence suggests that the views and actions of others in a user's shared setting considerably influence their behavior towards technology utilization (Oduor, Alahäivälä, & Oinas-Kukkonen, 2014). For instance, Chakraborty, Vishik, and Rao (2013) exploration of elderly Facebook users' information sharing behavior provided understanding on their degree of reluctance to share personal information on their profile pages. Likewise, Munar and Jacobsen (2014) examination of summer holidaymakers' motivations for social media contributions and their willingness to share content through various social media provided insights into such motivational factors as individual and community-based advantages as well as the social capital that influenced the sharing of user-generated content. Similarly, Jolaee, Nor, Khani, and Yusoff (2014) investigation of the factors affecting knowledge sharing among academic staff in universities indicated a positive relationship between attitude and knowledge sharing intention. Maillet, Mathieu, and Sicotte (2015) examination of the acceptance and actual use of an EPR and nurses' satisfaction through a conjectural model adapted from the UTAUT emphasized the significance of the mediating influences of the effort expectancy and performance expectancy constructs. During technology implementation, corporate and communal pressures emerge since people experience uncertainty regarding the work-related significance of a new IT (Gefen & Reychav, 2014). Consequently, they attempt to understand and to give significance to the technology and its abilities (Junglas, Goel, Abraham, & Ives, 2013). Throughout this logic creation process, people muster the

existing organizational and communal settings, as well as apply personal familiarity in determining the organizational and personal significance of a new technology (Venkatesh et al., 2003). Social norms drive individuals to adopt a particular practice, e.g. users adopting of ERP in public sector organizations, to gain legitimacy in the view of external structures. I used the following interview question to explore this theme:

Q3: How was peer (friends, coworkers) or domestic influences (relatives) related to acceptance of the new technology (social influences) managed?

Facilitating conditions describe the level to which a person believes the support on the system employment by the organization in related technology, equipment perspective, and comprising three sub-measures: compatibility, facilitating conditions and perceived behavioral control (Venkatesh et al., 2003). Facilitating conditions provide comprehensive data regarding the adjoining setting, including both technological and regulatory characteristics, which may improve or hinder individuals' innovation reception (Hsu, 2012). Compatibility mainly pertains to the compatibility of the innovation with prospective users' extant standards, requirements, and familiarity (Tan et al., 2014). Facilitating conditions comprise three factors, specifically education and sustainment, faith in the system, and venture correspondence (Shibl, Lawley, & Debuse, 2013).

Education is a significant dynamic of user acceptance of ERP systems (Khalid, Ghafar, Kiran, & Zaheer, 2013). Abu-Shanab, Abu-Shehab, and Khairallah (2015) conducted a case study exploration of ERP implementation within Saudi Arabian higher education and identified effective user training as one of the critical success factors towards implementation success. Luse, Mennecke, and Townsend (2013) explored the

variance in technology acceptance for individuals experiencing diverse forms of training. Outcomes demonstrated that users exposed to remote experience training differed on several aspects of technology acceptance when compared to users experiencing direct, proactive training. Veiga et al. (2013) noted how training improved ERP systems users' self-worth by providing a better understanding of how the system could enhance their occupational performance.

Chou et al. (2014b) explored the effect of knowledge sharing on ERP system usage and the factors affecting employees' knowledge sharing after the initial implementation of an ERP system via a survey of 804 ERP users from 53 Taiwan companies. Results suggested that social capital, intrinsic motivation, and self-efficacy all had significant impacts on knowledge sharing and were all influenced by user training. Esteves (2014) examined the characteristics of management of the training process within ERP implementation projects via data collected from a sample of 158 respondents across four participant groups involved in ERP implementation projects. Findings suggested that the categorized list of ERP training best practices enhanced understanding training activities in ERP implementation projects. Additionally, outcomes revealed that organizational dimension and locality had influenced the significance of training best practices.

Hwang (2014) examined restraining roles of user experience in the connection between the personal innovativeness and the ERP adoption motivations based on the PLS analysis of 107 ERP end users, which showed that there were clear moderating effects of user experience. Additionally, the research identified organizational training to

encourage basic inspiration or personal innovation as a significant administrative device. Ko (2014) examined the significance of end users' training during ERP implementations due to the confirmed affirmative effect user acceptance of the system. Outcomes indicated that training provides users opportunity to adapt to changes that arise during ERP implementation and permits them to attain direct knowledge and discover the value of the system. Schwarz et al. (2014) appended that via training, users can value the advantages provided by the ERP system. Hazen, Kung, and Jones-Farmer (2014) investigated how performance expectancy (PE) and training affect the degree to which firms utilize enterprise architecture (EA) by employing a survey method to gather data from IT professionals, senior managers, and consultants who work with firms that have implemented EA. Results indicated PE was a significant predictor of EA use. Additionally, training improved EA utilization while acting as a mediator within the connection between PE and EA employment.

Nwankpa and Roumani (2014) described shared belief as the users' conviction that the ERP system will have an affirmative organizational influence. Users from diverse commercial functionalities employ ERP systems because such systems incorporate diverse organizational processes (Nwankpa & Roumani, 2014). Consequently, acceptance relies on every user belief that the ERP system will have organizational benefit (Gohmann, Guan, Barker, & Faulds, 2013). Johnson, Zheng, and Padman (2014) proposed that users' faith in the system significantly influence their behavior regarding the system and usage. Saraf, Liang, Xue, and Hu (2013) posited users’ having communal faith and comprehension regarding the ERP system

implementation, to include organizational, and occupational benefits facilitate willing adoption. Conveying the significance of the ERP implementation is recognized as a critical factor in boosting user acceptance (Elkhani, Soltani, & Ahmad, 2014; Rout, Das, & Hota, 2013; Zubair & Zamani, 2014). Firms must rationalize the ERP system users as validating the system advantages can produce communal faith and reduce opposition (Elkhani, Soltani, & Ahmad, 2014). Following the decision to implement an ERP system validation is necessary (Razmi & Sangari, 2013; Xie, Allen, & Ali, 2014). When users believe they are a part of the decision-making process from the start, they are more prone to adopt the system willingly (Schniederjans & Yadav, 2013). In line with this, I used the following question to explore this theme:

Q4: What strategies were employed to ensure the existence of organizational and technical infrastructures (such as tech support) to support using the new system (facilitating condition)?

Furthermore, Venkatesh et al. (2003) considered three other secondary determinants: (a) attitude towards using technology: the extent a user contemplates using a specific system; (b) self-efficacy: a user's estimated capability to employ a specific system to complete assigned work or responsibility; and (c) apprehension: the degree of anxiety or responsive behavior related to a specific system the usage (Venkatesh et al., 2003). Therefore, I used the following interview question to explore this theme:

Q5: How were end-users encouraged to consciously continue using the system (behavioral intention)?

Gender can moderate PE, EE, and SI. Extant research suggested males were more

likely to have higher PE compared to females since they are inclined to be task focused, and work accomplishment was vital to them; this sentimentality originates from gender roles and socialization (Tai & Ku, 2013). Additionally, extant studies have proposed EE was more significant to females than to males (Liu et al., 2014). Gender characteristics contributed to the men and women dissimilarities (Hu, Al-Gahtani, & Hu, 2013). Females inclined to be more perceptive of others' views than males do, indicating SI was more prominent in technological adoption to females compared to males (Hu et al., 2013). Venkatesh et al. (2003) acknowledged gender as a moderator for the subsequent interactions: (a) performance expectancy and system use, (b) effort expectancy and system use, and (c) social influence and system use. I formulated the following interview question to explore this theme.

Q6: What were your strategies to enhance male versus female users' desire to consciously adopt the system?

Age, as another significant moderator, can influence every major construct. In contrast to older people, young people are more inclined to be fascinated by extrinsic incentives for PE (Liu et al., 2014). Effort expectancy was more prominent in accepting an innovation among older people than younger people (Heart & Kalderon, 2013). Additionally, older people placed greater distention on communal stimulus, with familiarity decreasing the influence (Keong , Ramayah, Kurnia, & Chiun, 2012). Likewise, regarding FC, older people are more biased to environmental setup due to their reflexive learning style grounded on familiarity (Liu et al., 2014). Venkatesh et al. (2003) recognized age as a moderator of the interaction between (a) performance

expectancy and system use, (b) effort expectancy and system use, (c) social influence and system use, and (d) facilitating conditions and system use. Teo and Noyes (2014) verified that age was a major moderator among effort expectancy and usage of the system, but that age was not a key moderator between performance expectancy and system usage. Older users are likely to find innovative systems more complex but do not appear to find them any less practical when executing their work (Teo & Noyes, 2014). Barnard, Bradley, Hodgson, and Lloyd (2013) examined factors influencing older adult technology acceptance and attributed data retrieval difficulties to adoption failures, which led to lowered performance expectancy among older employees who did not believe the system could aid them in job performance. I asked the following interview question to explore this theme:

Q7: What strategies were employed to encourage older versus younger users' to consciously desire to adopt the system?

Experience can influence adopters' EE, SI, and FC and pertains to the level of technology operation aptitude a user gains over time (Venkatesh et al., 2003). Effort expectancy is more prominent in forecasting BI when people have modest skills related to an innovative system in contrast to EE exerting less influence on BI in the later phases of experience (Liu et al., 2014). Additionally, social influence plays an important role in improving behavioral intent throughout the initial phases of experience, while its influence weakens due to the evolution of people's experience with technological innovations during later stages (Kohnke et al., 2014). As familiarity with the technological innovation increases, FC becomes a more significant factor in contrast to

BI, enabling the removal of impediments toward sustainable usage (Balaid, Rozan, & Abdullah, 2014).

Familiarity has been found to influence user beliefs in information systems such as ERP systems (Petter, DeLone, & McLean, 2013; Ram, Corkindale, & Wu, 2013; Ruivo et al., 2012) and enhance the user's assurance in their capacity to comprehend and employ the information systems in executing their jobs (Ruivo et al., 2013; Saini et al., 2013). As familiarity enhances eventually, users' views and acceptance goals alter significantly (Mahdavian & Mostajeran, 2013). Venkatesh et al. (2003) characterized experience as technological familiarity and suggested experience is a moderator of interactions between (a) effort expectancy and system use, (b) social influence and system use, and (c) facilitating conditions and system use. I asked the following interview question to explore this theme:

Q8: What strategies were your strategies employed with experienced versus inexperienced users' anxiety associated with using the system?

Voluntariness of use refers to whether or not an individual is mandated to use a particular technology and is posited to mediate the effects of SI on BI (Venkatesh et al., 2003). Involuntary in contrast to autonomous obligation has a moderating effect on an individual's motive to employ innovative IT (Chiu & Ku, 2015). Additionally, social influence is stronger in a compulsory environment since it openly influences motive while leveraging behavioral intention requires further endeavor in autonomous settings (Venkatesh et al., 2003). Extant research demonstrated technology employment in diverse environments was forecasted by PEU, PU, FC, and computer related demeanor.

These factors have different effects on mandatory versus voluntary environments of use (Chiu & Ku, 2015). I asked the following interview question to explore this theme:

Q9: What strategies were employed to mitigate users' anxiety associated with the mandated use of the system?

The UTAUT model employs use behavior (actual use of the system) as a key dynamic demonstrating information acceptance (Venkatesh et al., 2003). The UTAUT model proposes that the behavioral intention significantly affects employment activities (Venkatesh et al., 2003). Behavioral intention describes a user's intent to employ the new technology. In support, Hung, Tsai, and Chuang (2014) considered it suitable to study behavioral intention to use technology even in mandatory situations. They argued that ERP systems employment comprised both forced and willful use (Hung et al., 2014). Venkatesh et al. (2003) suggested that all independent variables excluding facilitating conditions indirectly affected usage via behavioral intention.

Review of existing UTAUT literature divulged a plethora of studies related to diverse organizational settings, industries, and countries. For instance, Al-Qeisi et al. (2014) employed the UTAUT to determine significant components of website design quality that influenced usage behavior. Outcomes showed the technical configuration, and display scale of a website were significantly, directly, and indirectly related to users' behavioral usage (Al-Qeisi et al., 2014). These findings suggested website appearance enhancements should boost the overall site assessment and usage (Al-Qeisi et al., 2014).

Escobar-Rodríguez and Carvajal-Trujillo (2014) used the UTAUT to examine determinants of purchasing flights from low-cost carrier websites. Results derived from a

sample of 1096 Spanish LCC consumers indicated that key determinants of purchasing are trust, habit, cost saving, ease of use, performance and expended effort, hedonic motivation and social factors. Of these variables, online purchase intentions, habit, and ease of use are the most important. Likewise, Hsu (2012) employed the UTAUT to examine students' acceptance and use of Moodle. Data, collected from 47 university students' questionnaire survey, revealed that performance expectancy, effort expectancy, and social influence were the major three keys of the UTAUT model to assess the acceptance of Moodle, behavioral intention acted as a mediator to urge students to involve in the use of Moodle. Similarly, Kohnke et al. (2014) integrated UTAUT predictors to investigate the intention to use Telehealth equipment by patients, clinicians, and agency personnel at Henry Ford e-Home Health Care.

Pardamean and Susanto (2012) used the UTAUT to investigate the students' employment of blog technology to learn e-business course materials and topic discussion. Results showed that both social influence and performance expectancy had a significant relationship with behavioral intention, whereas effort expectancy did not. Additionally, behavioral intention did not have a significant relationship with actual usage level of blogs as a learning tool. Likewise, Sharma and Kumar (2012) used the UTAUT to examine user acceptance of desktop-based computer software used in organizations based on a population of 120 students of different colleges. Outcomes revealed PE, EE, attitude towards using and FC were significant predictors of ductsoftware use. The correlation analysis disclosed that gender, age, educational qualification, experience, individual impacts and organizational impacts had a significant influence on different constructs of

UTAUT model.

Tan (2013) employed the UTAUT model to study and describe Taiwanese scholars' reception of English E-learning websites. Outcomes demonstrated that if students believed that English E-learning websites could aid in increasing their performance and that they were easy to use, there was an increase in their intention to use them, which suggested that web designers should improve knowledge management functions and improve user interfaces to be easier to operate (Tan, 2013). Likewise, Gruzd et al. (2012) used the UTAUT to examine academics' social media use for communication and information dissemination. Their study contributed to methodological discussions by offering recommendations regarding the expansion of UTAUT to fit examinations of social media use within scholarly practices. Similarly, Lin, Zimmer, and Lee (2013) investigated how the UTAUT applied to studying the adoption of podcasting in higher education. Outcomes included that for intent to adopt podcasting, effort expectancy was more significant to students than to teachers while facilitating conditions factors such as copyright clearance and technical support availability were more significant to teachers than to students (Lin et al., 2013).

Weerakkody et al. (2013) examined the role of intermediaries in facilitating e-government adoption and diffusion based on a survey of 502 participants in Saudi Arabia through an extended UTAUT model, which utilized trust in the Internet, and Intermediaries. Outcomes indicated there were significant correlations between the factors that influenced intention to use e-government, specifically, performance expectancy, effort expectancy, and trust of intermediary. Additionally, the results

indicated there was a significant relationship between facilitating conditions and usage behavior proving that intermediaries could influence adoption of e-government services. Martins et al. (2014) developed a conceptual model combining the UTAUT with recognized hazards to analyze the acceptance of Internet banking in Portugal. Outcomes sustained some UTAUT relationships, such as PE, EE, and SI, while hazards was a stronger forecaster of motive (Martins et al., 2014). Additionally, BI was the most significant factor explaining usage behavior of Internet banking (Martins et al., 2014). Miltgen, Popovic, and Oliveira (2013) modified UTAUT with elements of TAM and DOI within a reliance-confidentiality study paradigm to examine personal acceptance of biometric identification techniques in a voluntary setting. Initial, conclusions established the effect of traditional technology acceptance variables such as FC and PU, with prior dynamics such as regard for confidentiality, trust in the technology, and innovativeness also having influence (Miltgen et al., 2013).

UTAUT strengths/limitations. Created from knowledge garnered from extant technology adoption theories, the UTAUT is comparatively comprehensive. Nevertheless, like any other theory, UTAUT has strengths as well as limitations. The UTAUT model has two major strengths. First, compared to the explicatory rate of technology employment behavior offered by other technology acceptance theories, UTAUT is much higher at 70% (Balaid et al., 2014). Due to such precision and extensive employment in explicating technology acceptance activities, UTAUT model became the preferred theory for researching technology acceptance (Sun & Bhattacherjee, 2014). Second, UTAUT employment is not industry restricted, instead,

expansions include industries such as itinerant business (Love, 2013), virtual education (Tan, 2013), as well as service robotics (Park & Del Pobil, 2013), and clinical support system (Devaraj, Sharma, Fausto, Viernes, & Kharrazi, 2014).

Constraints of the UTAUT model surrounds rigidity to diverse framework adaptation. As Hu et al. (2013) detailed in their research, cultural diversity of Saudi Arabia compared to those of a typical Western country hindered employing the UTAUT to study Saudi Arabian employees' acceptance of computers. Due to Arab ethnic views, Saudi employees' labor-associated values were different from employees in Western countries (Hu et al., 2013). The variation in values created IT resistance, causing an adverse interaction with SI, and therefore, a negative effect on employees' IT adoption (Hu et al., 2013). Also, in the research on the behavioral intentions to use social network sites employing the UTAUT, Kaba and Touré (2014) had to adjust experience, voluntariness, and age moderators to mirror the area. According to Liu et al. (2014), people with social-economic prominence gain partisan and technical knowledge including innovation faster and easier.

From the outlook of industry, UTAUT investigation engrosses modernization from retail goods to scholastic innovations. Within the framework viewpoint, UTAUT research concentration varies from big companies, such as global businesses, to small companies, and to scholastic organizations. From a cultural variance lens, some studies test UTAUT theory in diverse nations, from Asia to Europe. Nevertheless, some suggest that UTAUT and many of its underlying models and theories examined technology acceptance from a predictive standpoint; the research supporting UTAUT examined only

the determinants of technology acceptance. Consequently, these theories and models failed to examine technology acceptance from an experiential perspective. In other words, these theories and models failed to incorporate the richness and depth of the user's experiences of technology acceptance. By examining the perspectives of business managers, this case study attempted to explore strategies to successfully lead an ERP system implementation, and subsequently, provide a platform to enhance ERP implementation studies in this environment.

Rival Theories/Opponents of the Conceptual Framework

Comparable to most theories, UTAUT has rival theories or rival explanations for examining user acceptance such as the theory TRA, TPB, and TAM. The TAM is the most predominant rival since it is one of the most highly recognized models in existing literature with over 15,000 Google references (Bagozzi & Yi, 2012). Both the TRA and TPB have been employed to explicate a plethora of diverse conduct ranging from communicating with patients (Roberto, Krieger, Katz, Goei, & Jain, 2011) to investigating mobile learning readiness in higher education (Cheon, Lee, Crooks, & Song, 2012). Following Fishbein's (1979) development of TRA, Davis (1989) established TAM, a model based on the theories of TRA with the goal of clarifying the acceptance intention to a particular technology. Existing literature confirmed the adoption of the TAM with the foundation of TRA (Suryaningrum, 2012).

Davis (1989) suggested in its most simple and practical form, the TAM describes behavioral intention regarding PE and PU. Perceived ease characterized the level to which an individual perceives that employing a certain system would be effortless while

perceived usefulness described how an individual perceives the valuable the technology regarding job performance. The TAM has been efficient in explaining user behavior across a broad range of technological populations (Rauniar, Rawski, Yang, & Johnson, 2014). Chen and Hsiao (2012) used TAM to explore doctors' responses to hospital information systems, specifically, based on a survey of 202 doctors. Results demonstrated management endorsement, project team proficiency, and system quality influenced user's intent through the facilitating constructs, PU, and PEU (Chen & Hsiao, 2012). Al-Hujran, Al-Debei, Chatfield, and Migdadi (2015) employed TAM to illustrate how the TAM and e-Government enterprises would positively influence the Gambian government, regardless of social variances. Outcomes indicated TAM core constructs had a strong influence on users' intent to use e-Government systems (Al-Hujran et al., 2015).

Lee and Lehto (2013) used TAM to examine user acceptance of YouTube for procedural learning based on a sampling of 432 respondents. Results indicated that both PU and user satisfaction significantly influenced BI, while task-technology fit, content richness, vividness, and YouTube self-efficacy were significant predictors of PU (Lee & Lehto, 2013). Conversely, PEU was insignificant as a predictor of either PU or BI (Lee & Lehto, 2013). Their suggested model described 43.8% of the difference in behavioral intention, suggesting that YouTube may augment its function as a common channel for procedural learning and instruction (Lee & Lehto, 2013). Park and Kim (2014) used extended TAM to analyze drivers' acceptance of car navigation systems based on an online survey of 1,181 drivers. Outcomes showed that the model accurately predicted

drivers' acceptance of car navigation systems while recognizing perceived processing speed and locational accuracy of car navigation systems as key psychological constructs, and exposing that gratification played a moderating role (Park & Kim, 2014).

Nevertheless, TAM has received criticism for its several limitations, despite being recognized an effective conjectural framework for researching ICT acceptance and usage (De Grove, Bourgonjon, & Van Looy, 2012). Park, Nam, and Cha (2012) identified omission of external variables, which may influence users' intent to employ technology as a TAM limitation. Likewise, Joo and Sang (2013) argued that the original intent to be general and parsimonious; prevents TAM from identifying antecedent variables that could influence PEOU and PU. Similarly, Waehama, McGrath, Axel, and Fong (2014) argued limitations within each UTAUT incorporated model influences the ultimate viability of UTUAT model. Alotaibi and Wald (2014) recognized UTAUT needs added progression including creating and consequently testing limitations via different settings, kind of technology, and firms. Similarly, Al-Qeisi, Dennis, Hegazy, and Abbad (2015) suggested while relevant, UTAUT explication of online behavior in Third World countries was restricted.

Abraham et al. (2013) argued that technology acceptance models share the identical theoretical framework: all models completely believe that human technology-related behavior is the result of societal and cognitive practices. A dependent cognitive theory of an individual's response to technology inherently assumes that an individual responds to technology and technology associated dynamics only, and hardly judged any non-technology-related aspects to having an influence (Abraham et al., 2013). Second, it

assumes that individual intellectual procedural abilities decide acceptance, and any illogical behavior is by default inexplicable (Abraham et al., 2013). Concurrently, Sun and Bhattacherjee (2014) posited that models such as TAM stemmed from theories of human behavior rather than theories of IT and inherited their limitations (i.e., insufficient concentration on technological factors). They suggested such models are commonly incapable of clarifying the varied acceptance of technologies within identical user population or why matching technology cause diverse acceptance patterns across dissimilar usage environments (Sun & Bhattacherjee, 2014). Their belief is that integrating technological divergences can aid providing enhanced comprehension and establish better IT usage conjectures than that conferred by existing usage paradigms (Sun & Bhattacherjee, 2014).

To address these limitations, Venkatesh and Davis (2000) proposed an extension of TAM, the TAM2 comprising social influence process such subjective norm, and cognitive instrumental processes such as job relevance, output quality, and result demonstrability. Wong et al. (2012) employed and validated the TAM2 as a feasible model to evaluate technology acceptance in elderly populations. Venkatesh and Davis (2000) developed TAM2 to improve the explanatory power of the original TAM. The UTAUT was developed to address the same limitation in TAM2 (Venkatesh et al., 2003). The UTAUT hinges on and enhances TAM by incorporating the eight most employed paradigms in the technology acceptance field into one efficient framework (Venkatesh et al., 2003). Consequently, the UTAUT comprises the framework for the proposed research to explore public sector leaders' knowledge related to user acceptance factors

during the post-implementation phase of an ERP system.

Enterprise Resource Planning (ERP) Systems

ERP systems are computer-based applications that integrate several business processes, such as manufacturing, supply chain, sales, finance, human resources, budgeting and customer service activities (Schniederjans & Yadav, 2013). ERP systems facilitate the flow of data between every commercial activity within organizational limits and controls communication with external stakeholders (Dezdar, 2012). An ERP system comprises an integrated database, employs a universal platform and combines all commercial processes into a standardized and activity-wide setting (Raihana, 2012). ERP have essentially remodeled the gathering, storage, distribution, and utilization of commercial information globally (Teittinen, Pellinen, & Järvenpää, 2013). Extant literature acknowledges the major advantages that ERP systems implementation can provide (Nwankpa & Roumani, 2014).

Main ERP advantages are the capability to modernize, control, and incorporate organizational processes to reduce data distribution time and enhanced competitive advantage (Abdullabhai & Acosta, 2012). Additional benefits can be tangible and intangible (Choi, Chow, & Liu, 2013). ERP systems also provide data for firms to recognize the reasons for ambiguity related to delivery interruption, which facilitates firm enhancement (Reimers, Li, Xie, & Guo, 2014). Extant studies refer to major inter- and intra-organizational benefits such as quicker data distribution, enhanced fiscal control, decreased shipping and logistics expenses, enhanced supply chain relationships, improved consumer reaction, in addition to flexibility, efficiency, and decreased stock,

thus enhancing service levels (Doherty, Ashurst, & Peppard, 2012).

Maas et al. (2014) explored the impact of organizational control, and whether infusion would cause higher levels of ERP system success, based on data from a sample of 260 matched pairs of ERP system users and their supervisors. Outcomes indicated a positive relationship between empowerment and infusion, whereas organizational control exhibited an inverted u-relationship. They also discovered a critical link between infusion and the ERP system, meaning that the more users who utilized the system fully, the more likely the organization was to attain the promised benefits of the ERP systems (Salih, Hussin, & Dahlan, 2013). ERP implementation symbolizes a significant step towards achieving a successful continuous commercial process assimilation for complex strategic, and operational commercial value achievement (Samuel & Edwards, 2014).

Kanellou and Spathis (2013) described ERP implementation as the most significant and extensive data technology venture that interrelates with the accounting function in the previous 15 years. Pishdad and Haider (2013) investigated the inner and external factors that contributed to the assimilation of ERP systems within the organizations through the processes of adapting, routinizing and institutionalization of technology. Based on thematic analysis of responses from open-ended interviews with ERP stakeholders in large size Australian organizations, outcomes indicated that the ERP implementation is a process of aligning technology with organizational, social, cultural, economic, technical, and other organizational, environmental institutions.

Despite the many benefits, firms experience significant challenges regarding cost, complexity, and business impact related to ERP implementation (Roh, Hong, & Min,

2014). A survey conducted by Panorama Consulting Solutions revealed that over a 4-year period, the average cost of ERP implementations had been $6.5 million, and the average duration had been 16.1 months (Conteh & Akhtar, 2015). During this time, roughly, 54% of ventures surpassed their intended budgets, 72% of ventures had surpassed their intended period, and a full 66% of participant firms had obtained under 50% of the quantifiable advantages they expected from their ERP implementation enterprises (Mueller, Mendling, & Bernroider, 2014). Benefits are at the heart of any ERP implementation. According to Coombs (2015), only 80% of participants achieved some quantifiable commercial advantages, of those, 66% achieved below half the anticipated benefits, and only 26% achieved between 51% and 100% of predicted advantages.

For instance, a county in California recently devoted over $30 million to an ERP implementation with very little to show for it (Eden & Sedera, 2014). According to public records, the county canceled the initiative, accusing system integrators of deception and perversion during the sales cycle, providing inexperienced implementation consultants, and suggesting that the software had a high error rate which supposedly led to the colossal collapse (Eden & Sedera, 2014). Additionally, Eden and Sedera (2014) highlighted Britain's publicly funded healthcare system recently cancelling a 10-year and $20 billion ERP implementation program aimed at computerizing health records and other business processes that would have supported 60 million recipients as another notable letdown.

The Department of Defense (DoD) is a large organization that employs thousands

of commercial systems that cost billions of dollars to operate, maintain and modernize (Ketrick et al., 2011). During the past decade, ERP systems have become a primary focus within the DoD in an attempt to reduce the number of commercial systems, and cause process integration across the Services (Revenaugh & Cook, 2013). The DoD initiated the world's largest ERP Implementation initiative in efforts to replace antiquated legacy systems, modernize business processes, and enhance supply chains (Rosa, Packard, Krupanand, Bilbro, & Hodal, 2013).

Worldwide millions of dollars are invested in the development and implementation of numerous ERP systems (Ketrick et al., 2011). Unfortunately, ERP systems implementation challenges within the DoD have induced spending increases totaling over $6 billion and generated SCM drawbacks in the spheres of liability, distribution, and comprehensive oversight (Government Accountability Office, 2013). ERP implementation challenges also account for the organization possessing excess inventory allocated for potential reclaim or disposal worth over $9 billion, and requisitioned excess inventory, previously bought but estimated to be excess due to requisite alterations valued at over $5 million (Government Accountability Office, 2013). Additionally, these delays have extended the service of current outdated legacy systems, and their funding (Revenaugh & Cook, 2013).

With existing budgetary limitations, it is crucial that the DoD conduct research that further the development of suitable ERP implementation approaches (Ketrick et al., 2011). One key attribute of implementing an ERP is user acceptance (Sternad & Bobek, 2013). Extensive private industry ERP implementation research has identified user

acceptance as a critical success factor (CSF) for success (Ruivo et al., 2012). ERPs fit this model and typically involve drastic organizational change. Within both the practitioner and scholastic communities, the challenges associated with end-user adoption of IT have been extensively researched (Rizzuto et al., 2014). As the DoD seeks to enlarge and transform its enterprise, there must be user acceptance research on recent DoD ERP implementations.

Existing ERP implementation literature contain diverse ideologies related to: organizational structures (Nwankpa & Roumani, 2014), cultures (Hasibuan & Dantes, 2012), and suitability (Amid & Kohansal, 2014), while performance, readiness, leadership, governance, change management, knowledge management, and user integration were all identified within a critical success factor framework (Caya et al., 2014; Chou, Lin, Lu, Chang, & Chou, 2014; Hoch & Dulebohn, 2013; Ram et al., 2013). Nevertheless, one fundamental theme prevailed, user acceptance was critical. While extant literature contains a wide array of studies related to ERP implementation in both private and public sector organizations, references surrounding the defense sector are few. By examining the perspectives of business managers, this case study attempted to explore strategies to successfully lead an ERP system implementation, and subsequently provide a platform to enhance ERP implementation studies in this environment.

ERP adoption and SCM benefits. IT plays a pivotal role in transforming the way firms collaborate, particularly; the openness of IT has enhanced opportunities for firms and consumers' interaction (Tsou & Hsu, 2015). Firms adopting innovative technologies must confirm the new technology will enhance both productivity and

service levels (Anaya, 2013; Galy & Sauceda, 2014; Hall, Lotti, & Mairesse, 2013; Kindström, Kowalkowski, & Sandberg, 2013). Attaining the utmost return on IT ventures requires a comprehensive evaluation of implementation methods (Lopez & Salmeron, 2014). Managerial decision making must analyze the outcomes of technological, commercial, and individual traits to determine the association between the transmission and combination of these technologies and the efficiency, effectiveness and output (Lopez & Salmeron, 2014).

Since conceptual inception in the early 1980s, the term SCM has been used to describe the inter- and intra-organizational planning and management of merchandise, data transmittal, and logistics activities (Barney, 2012). The Council of Logistics Management (CLM) described SCM as the method of developing, executing and managing the capable and efficient movement and storage of merchandise, services, finances, and associated data from place of origin to point of utilization with the objective of complying with consumer needs (Estampe et al., 2013). SCM draws greatly from the components of asset management, logistics, procurement, and IT.

Successful SCM has become a central business capability that bridges every industry and region and is a key enabler of a feasible organizational or legislative approach (Ince, Imamoglu, Keskin, Akgun, & Efe, 2013). Global business managers expect SCM to offer enhanced commercial integration with both merchants and consumers while providing viable levels of revenues (Ab Talib & Abdul Hamid, 2014). Currently, viable supply chains rely on the data infrastructure that provides responsive synchronized resolutions to adjust the flow of merchandise to sustain consumer needs

(Yu, Jacobs, Salisbury, & Enns, 2013). Archaic legacy systems are no longer efficient in managing demands within today's indecisive, erratic setting.

Supply chain (SC) expenditure can symbolize a large segment of overall an organization's operational expenses (Mithas et al. 2012). Therefore, a decrease in these costs can signify broad organizational savings, further highlighting the significance of exploiting SC competence and value (Liu, Ke, Wei, & Hua, 2013). For instance, a key American automotive company ultimately had over 500 million tons of consigned merchandise, yielding about $4 billion in yearly logistics costs (Yim, Forman, & Kwa, 2013). Considering the SC price configuration, the auto industry exploits SC efficiency as a competitive advantage to reduce accessed expenses of merchandise, which comprises new cars in addition to parts and services (Lin, 2014). Synchronized effort linking close inter-organizational affiliations, and exploiting IT implementation ensures supply chain efficiency (Salvetat, Geraudel, & d'Armagnac, 2013). The implementation of IT is a major driver of SC openings (Ngai, Peng, Alexander, & Moon, 2014). Undeniably, IT allows supply chains to achieve agility, reduce uncertainty, cycle-time, and inventory, and to collaborate with networked members (Choy et al., 2013). Fundamentally, IT operates as the central nucleus of the whole system and gives open advantages to individual SC affiliates (Bharadwaj & El Sawy, 2013).

Firms must cautiously deploy innovations that manage complex operations, including their supply chains in dynamic environments (Hameed, Counsell, & Swift, 2012). For instance, in response to competitive pressures organizations can engage in IT-based strategic marketing activities, which aid in sustaining their market positions and

enhances firm achievement (Bharadwaj & El Sawy, 2013). Yim et al. (2013) emphasized that cost-saving technologies performing exclusively and involving nominal customer interface, such as the IT positioned in SCM, are particularly acquiescent to acceptance by merchants due to their propensity to offer price-lowering opportunities. Consequently, IT plays a crucial part in SCM, where firms try to enhance SC efficiency while reducing expenses through technological implementation aimed at integrating processes (Roh et al., 2014).

While IT implementation is prevalent in today's competitive marketplace, there are inherent complexities (Ahmad & Siddiqui, 2013). Previous studies indicate considerable obstacles to technology acceptance and achievement, which can be technological, venture, or application associated (Musawa & Wahab, 2012). Technology implementations often lack consideration of user related effects (Cresswell & Sheikh, 2013). A broad comprehension of how user acceptance factors that influence technology adoption is necessary to enhance knowledge related to the IT implementation achievement in supply chains (Lin, 2014).

Technology implementation and adoption are crucial to managing and exploiting supply chains (Yim et al., 2013). Several extant studies examined the antecedents of technology adoption within the supply chain context, but few employed an ethnological lens. Most studies related to supply chain IT adoption involved the sales management arena (Ngai et al., 2014), retail (Mohezar & Mohd Nor, 2014), and channel management contexts (Jean, Sinkovics, & Kim, 2014). Nevertheless, technology adoption and implementation within a supply chain affects end-users and, therefore, has social

implications. Consequently, this study attempts to extend the understanding of how user acceptance factors affect post adoption behaviors, a process collectively defined as internalization (Pan, Nam, Ogara, & Lee, 2013). ERP has been extensively implemented to enhance inter- and intra-organizational communication, operations, processes within the logistics channel, and distribute data along the supply chain from the merchants to the consumers (Varma & Khan, 2015). Describing the significance of ERP success within supply chains is significant to this study; consequently, the next section discusses this dynamic.

Bharathi and Parikh (2012) argued that organizations typically expect the system to not only address problems associated with business process integration but also enable information to flow seamlessly across functions and streamline functional processes. Li and Mao (2012) explored the effects of ERP system adoption, particularly, the role of formal and informal management control systems as mediators of the effect of ERP systems adoption on firm performance. Results indicated the use of ERP systems enhanced long-term organizational performance (Li & Mao, 2012). Bernroider et al. (2014) explored whether an ERP implementation project mediated the relationship between dynamic pre-adoption capabilities and ERP-enabled business improvements based on a field survey of large ERP adopters in Austria. Results indicated that the performance of the ERP implementation project fully mediated external information acquisition and IT governance capabilities, and decision-making directly influenced business capabilities (Bernroider et al., 2014).

Completing projects on time and within the budget provide various operational

benefits (Schniederjans & Yadav, 2013). The integration of business functions and in turn, significant operating cost reduction, improved capabilities, and data transparency facilitate economies of scale (Schniederjans & Yadav, 2013). For instance, the Earthgrains Co. reported operating margin enhancement from 2.4% to 3.9%, and delivery rate increases up to 99% following ERP implementation (Mishra, 2011). According to Par Industries, ERP implementation improved delivery performance from 60% on time to more than 95%, reduction in lead times to customers from 6 weeks to 2 weeks, repair parts reductions from 2 weeks to 2 days, work-in-process inventory dropped almost 60%, and the life of a shop order dropped from weeks to mere hours (Mishra, 2011).

Following ERP implementation, IBM Storage Systems Division was able to re-price all of its merchandise in 5 minutes compared with 5 days prior to the implementation (Schniederjans & Yadav, 2013). Additionally, there was a reduction in time to ship replacement parts from 22 days to 3 days, and the time to do credit checks from 20 minutes to 3 seconds (Schniederjans & Yadav, 2013). Fujitsu was able to reduce cycle time for order fulfillment from 18 days to a day and a half (Chen, Chang, Liu, Chen, & Yeh, 2012). Additionally, Autodesk, a leading designer of CAD software, reported shipping orders within 24 hours in contrast to an average of 2 weeks prior to ERP implementation (Shatat, 2015).

The defense logistics agency's (DLA) implemented a new ERP system resulting in a reduction in the logistics response time of 6 days, and a reduction of 7.7 % in the cost recovery surcharge rate charged to customers (Goodman, Greer, & Babcock, 2011). So far, DLA has achieved more than $72 million in cost savings over legacy systems and

99.7% system availability, additionally, the system has achieved 100% supply chain interoperability with its military service customers, and resulted in well over $100 million in cost savings/cost avoidance while improving service to the warfighter (Goodman et al., 2011). While existing research is more concentrated on IT adoption in a business-to-business framework (e.g. Vachon, Hajmohammad, & Patry, 2013), reasonably fewer studies explored post-implementation comprehension. This study attempted to illuminate the antecedents of post-implementation user behaviors.

User acceptance of ERP. The implementation of technology systems like ERP needs large investment and may result in big changes in business process and end users' behaviors, thus, understanding the intention of system use is of practical importance (Zhang, Gao, & Ge, 2013). Employees' associated resistance to new IT adoption is a fundamental barrier to successful implementation (Rizzuto et al., 2014). User resistance is frequently a significant dynamic in the outcome of a large-scale system implementation, understanding the motors of change can lead to a better understanding of the emergence of user resistance. Zamani (2014) identified user resistance as a major obstacle to the integration of ICT.

Garg and Garg (2014) conducted a study of the Indian retail sector focused on recognizing, examining and prioritizing ERP implementation failure factors through cause-effect and Pareto analysis. Data collection comprised a survey questionnaire/interview involving professionals engaging/implementing/employing ERP in the retail sector, and outcomes identified user resistance as a significant critical failure factor (Garg & Garg, 2014). Shaul and Tauber (2013) conducted an exhaustive and

comprehensive literature review of 341 articles to investigate critical success factors in ERP systems implementation that identified user resistance as one of the main critical success factors.

The recognition of causal issues significant to organizational IT acceptance is a fundamental concern in information system research (Walsh, 2014). Among major issues related to IT initiative failures, users' opposition is one of the most prominent since it relates to ethnological opposition to alteration (Shatat, 2015). User's resistance characterizes a biased process psychologically based at a personal level (Xue et al., 2015). User's resistance surrounds actions in response to current or continuing circumstances identified as negative, as unjust, as a risk or as a stressor (Xue et al., 2015). According to Joia, de Macêdo, and de Oliveira (2014), resistance materializes when users view project driven alterations related to individual or group affiliated work as unwarranted. Information technology resistance is either passive or active (Heidenreich & Spieth, 2013). Extant research revealed that the opposition is greater at group level than at personal and managerial levels (Heidenreich & Spieth, 2013). Specifically, groupings of people are more prone to developing high IT opposition (Heidenreich & Spieth, 2013).

Several organizations (e.g., Dow Chemical, Mobile Europe, Dell Computer, and FoxMeyer Drugs) devoted significant time and money to ERP implementations but failed to realize their projected result (Aloini et al., 2012; Heath et al., 2013). Despite being recognized as the provider of a user-friendly interface designed, Linux currently controls only about 1% of the operating system market for personal computers (Kim, Chan, &

Lee, 2014). A significant reason for this low adoption rate is users' resistance to switching to a new operating system (Kim et al., 2014). Lumber Liquidators estimated net sales losses between $12 million and $14 million following go live while revenues fell 45% resulting from user resistance during SAP implementation (Ram et al., 2013).

Primarily, in reaction to ERP implementation, users' manifest resistant actions which lead to project interruptions, budget increases, and under usage of new systems (Silva & Fulk, 2012). Besson and Rowe (2012) described opposition to IS systems as a very difficult framework, frequently viewed as being contradictory to IS reception. Opposition is a succession of user-related actions that display their displeasure with the implementation of an innovative system and is the focal aspect of the IS resistance process (Rivard & Lapointe, 2012). Extant literature highlights a range of conduct, from indifference to disruption (Gan & Balakrishnan, 2014), and caustic exploits (Croasdell et al., 2013), including system rejection (Joia et al., 2014), persistence in sustaining the status-quo (Ngafeeson & Midha, 2014), and establishment of IS opposition alliances (Talke & Heidenreich, 2014).

Tempering user, resistance for the sake of capitulating acceptable instead of unacceptable outcomes requires a thorough understanding of user resistance indications in implementation endeavors (Selander & Henfridsson, 2012). As noted by Bernroider et al. (2014), a sound comprehension of user resistance factors would facilitate the conception of efficient managerial mechanisms that might produce better user acceptance and utilization of new systems. The UTAUT can provide organizations the means to comprehend the outcomes of extrinsic factors concerning the contributory association and

degree of contact linking perceived usefulness, perceived ease of use and observable intent to utilize to support organizational implementation and utilization of technological systems (Escobar-Rodríguez & Carvajal-Trujillo, 2014).

UTAUT-related research. ERP systems implementation is one of the streams of technology acceptance study (Kwak, Park, Chung, & Ghosh, 2012). Existing ERP implementation-based UTAUT literature contain diverse ideologies related to: organizational structures (Nwankpa & Roumani, 2014), cultures (Hasibuan et al., 2012), and suitability (Amid & Kohansal, 2014), while performance, readiness, leadership, governance, change management, knowledge management, and user integration were all identified within a critical success factor framework (Caya et al., 2014; Chou et al., 2014a; Hoch & Dulebohn, 2013; Ram et al., 2013). Review of existing ERP implementation-based UTAUT literature revealed numerous studies with one underlying theme, user acceptance was critical.

Within the Taiwanese electronics industry, Hou (2014) employed UTAUT to examine users' acceptance of business information (BI) systems, and the moderating influences of gender, age, experience, and voluntariness of use. Results indicated the user acceptance factors of performance expectancy, social influence, facilitating conditions, and computer anxiety were significant determinants of behavioral intention to use BI systems while effort expectancy was not (Hou, 2014). Likewise, facilitating conditions, and behavioral intention were significant predictors of users' usage behavior of BI systems (Hou, 2014). Likewise, Alleyne and Lavine (2014) employed UTAUT constructs to explore factors influencing accountants' ERP usage at an international

development agency through an online survey of 104 respondents from the different countries within which the organization operated. Outcomes indicated attitudes towards the use, performance expectancy, and self-efficacy and effort expectancy were significant predictors of behavioral intention to use the ERP system (Alleyne & Lavine, 2014). Behavioral intentions and facilitating conditions significantly and positively influenced actual ERP usage while social influence was insignificant (Alleyne & Lavine, 2014).

Similarly, Coeurderoy, Guilmot, and Vas (2014) used the UTAUT model to explore what factors influenced the technological change adoption speed of an information system based on a 15-month longitudinal study of a workflow system implementation in a telecommunications firm. The study analyzed the influence of eight variables grouped into four categories: the perceived attributes of change (PE and EE), SI (peer influence and supervisor influence), FC (initial training and helpdesk), and individual characteristics (Coeurderoy et al., 2014). Outcomes indicated the user acceptance factors of performance expectancy, supervisor influence, and self-efficacy had a direct influence on the speed of technological change adoption (Coeurderoy et al., 2014). Fillion, Braham, and Ekionea (2012) used UTAUT to identify the factors influencing ERP systems usage in medium-to-large-sized Canadian enterprises by exploring the feelings of middle managers and end-users from three regions. Outcomes indicated ERP systems usage in medium- to large-sized Canadian enterprises was influenced by user acceptance factors (Fillion et al., 2012). Facilitating conditions, anxiety, and behavioral intention were significant, and a moderated by age while social influence played a less significant role (Fillion et al., 2012).

Methodological Review

The various theories and models had a foundation in diverse schools of thought such as systems, psychology, and sociology, all have been shown to have a similar underlying conceptual framework that unfolds in three steps: (a) an individual encounters a technology and reacts to using it, (b) the user then expresses an intention to use the technology, and (c) then the user actually uses the technology. Venkatesh et al. (2003) UTAUT and many of its underlying models and theories examined technology acceptance from a predictive standpoint. My review of the extant literature indicated the majority of studies were correlational and examined only the determinants of technology acceptance. Abraham et al. (2013) argued extant theories and models failed to examine technology acceptance from a heuristic perspective. In other words, these theories and models failed to incorporate the richness and depth of the user's experiences of technology acceptance.

Extant qualitative research surrounding technological familiarity spanned a broad range of technological areas, varying from travel based smartphone usage (Wang, Xiang, & Fesenmaier, 2014b) to the healthcare technology implementation (Nieboer, van Hoof, van Hout, Aarts, & Wouters, 2014) to the educators influence during knowledge sharing platform implementation (Harris, 2012). Nevertheless, I am interested in case studies that consider technology acceptance, particularly studies employing UTAUT conceptual frame. Extant UTAUT-based case studies included Gruzd, Staves, and Wilk's (2012) exploration of scholarly social media usage employing UTAUT. They discovered that UTAUT constructs were a suitable foundation for exploring academics' social media

acceptance and usage (Gruzd et al., 2012). Likewise, Mandal and McQueen (2012) employed the UTAUT conceptual framework in their case study of social media implementation in microbusinesses. Similarly, Tarhini, Mgbemena, Trab, and Masa'deh (2015) used a UTAUT-based case study to explore Nigerian users' acceptance of online banking. Their outcomes demonstrated that security is the leading dynamic affecting consumers' choice to accept online banking amenities (Tarhini et al., 2015).

Transition and Summary

In Section 1, I discussed the purpose of the study and conferred the possible advantages of an ERP system unrealized due to rates of high failure. I chose a qualitative case study design because the intent was to enhance comprehension of the lived experiences of users within a UTAUT framework following ERP systems implementation. I identified the research questions, in addition to the study environment, methodology while conferring sustainment of the conceptual framework for the literature review. Additionally, Section 1 comprised explanations of key terms, and assumptions, limitations, and delimitations to aid in framing the study. Furthermore, this segment comprised a discussion regarding the study importance. I specified how the study could influence the organizational community and social change in Section 1. My review of extant literature revealed the majority of studies were correlational, examined only the determinants of technology acceptance, and failed to examine technology acceptance from a heuristic perspective. In other words, these theories and models failed to incorporate the richness and depth of the user's experiences of technology acceptance. Consequently, my study attempted to answer the call for more research by delving into

the case study framework of ERP implementation and IT acceptance research employing UTAUT conceptual frame.

In Section 2, I established the plan of study on this research topic of exploring strategies public sector business managers use to successfully lead an ERP system implementation. In the subsequent segment, I offered aspects related to the role of the researcher, portrayal of both the participant population and choice methodologies, together with categorizing and rationalizing both the research method and design. I ended Section 2 with a comprehensive account of the data collection, analysis, and rigor of the study. In Section 3, I introduce the study outcomes and their applicability to business and inferences for social change and then closed with conclusions, propositions for action or further study, and contemplation on my experience throughout the research process.

Section 2: The Project

Section 2 contains a purpose statement review, a description of the role of the researcher, participant recruitment strategies, the research method, and the design rationale. Topics addressed in this section include the target population and selection process, research ethics, data collection, instrumentation, organization, analysis, and techniques. I conclude Section 2 with a discussion of the reliability and validity of the research instrument, a transitional summary of the fundamental topics, and an overview of Section 3.

Purpose Statement

The purpose of this qualitative single case study was to explore strategies that public sector business managers use to successfully lead an ERP system implementation. The target population included business managers who were directly involved in a successful ERP implementation in a public sector organization in Southeast Alabama. Research outcomes may contribute to social change by aiding business managers in recognizing the significance of technology acceptance during an ERP system implementation within a public sector organization and planning accordingly to enhance the likelihood of organizational sustainability and profitability. Results of the study might influence social change by identifying implementation strategies that enhance user gratification and encourage usage.

Role of the Researcher

The researcher is responsible for gathering and analyzing data in qualitative research (Tufford & Newman, 2012). Consequently, clarifying the researcher's role is

vital to enhancing qualitative research credibility (Unluer, 2012). My roles involved choosing a suitable research method and design, recruiting prospective participants, and gathering and analyzing the data. My research strategy was to gather data through interviews with participants who were directly involved in an ERP implementation in a public sector organization in Southeast Alabama. I had both familiarity and professional curiosity in the subject area, and I worked as a professional in the field of SCM for over 20 years with the experience of several ERP implementations. Additionally, I was familiar with the study location, having lived in the metropolitan area for over 4 years. However, no personal or professional relationships existed between the research participants and myself.

The Belmont Report (1979) identified three ethical principles governing research involving humans: respect for the autonomy of participants, fairness in both conception and implementation, and maximization of potential benefits while minimizing possible harm. Braun and Clarke (2013) stated that participants' voluntary informed consent forms the foundation of research. Seidman (2013) suggested that gaining participants' voluntary informed consent implies an obligation to clarify the nature of the study and its dissemination. Likewise, Silverman (2013) indicated that participants must be cognizant of their right to decline to participate, comprehend how the researcher will maintain confidentiality, be conscious of the possible uses of their responses, and be advised of their right to withdraw consent. Aligned with Shoup (2015), my role related to ethics and the Belmont Report protocol involved doing no harm; assuring privacy, anonymity, and confidentiality; and gaining informed consent. Consequently, before starting each

interview, I provided the participant with a consent form (Appendix B) detailing the nature and purpose of the study, ways in which I would maintain confidentiality, and the responsibilities of the primary researcher and research participants. The consent form (Appendix B) I provided addressed (a) voluntary participation, (b) the right to withdraw or terminate the interview at any time, (c) the right to withdraw any responses at any time prior to the publication of the study, and (d) the storage of interview responses in a safety deposit box for 5 years.

Peredaryenko and Krauss (2013) suggested that researchers, whether willfully or unintentionally, bring aligned or divergent bias, conjectures, and convictions to the research setting, particularly if they have strong familiarity with the study population. Petty et al. (2012) argued that researchers must put aside their personal views through a process referred to as *epoche* (or *bracketing*) to derive the essence of the topic and deepen their understanding. Similarly, Chan et al. (2013) recommended bracketing as a technique to alleviate the possibility of biases tainting the research process. Veletsianos and Kimmons (2013) employed bracketing in their research on faculty members' use of technology and social networking sites by containing their preexisting biases during the interview, analysis, and writing stages. Like Veletsianos and Kimmons, I employed bracketing throughout the research.

Tufford and Newman (2012) suggested journaling encounters with participants and reviewing journal notes with an external party as an approach that mitigates preconceptions throughout the research process. Likewise, Elliott, Ryan, and Hollway (2012) suggested supplementing interview records with reflexive field notes (memoing).

Elliot et al. recommended writing these field notes soon after each interview, describing in detail the setting and aspects of the research interaction that took place outside the audio record, as well as the researcher's subjective responses to the setting and the interview relationship. Similarly, Harper and Cole (2012) recommended sharing transcripts with participants to clarify and confirm their interpretations or meaning (member checking) as a tool to alleviate bias and enhance creditability. Consequently, I remained impartial, objective, and avoided statements of agreement or disagreement with interviewees' responses as a preventive measure to reduce prospective individual bias. To enhance my ability to sustain a reflexive stance, I maintained a reflexive journal containing conjectural notes explaining the research rationale, procedural notes explaining technical considerations, and observational statements recounting my personal responses to the location and the interview rapport. I consulted an outside source (my doctoral study chair) to uncover and bring preconceptions and biases into cognizance. Consequently, I employed bracketing, reflexivity, and member checking in order to alleviate preconceptions and interpret data through a subjective lens.

Jacob and Furgerson (2012) suggested that an interview protocol represents more than a series of queries, instead providing a procedural guide for researchers throughout the interview process. Likewise, Bolderston (2012) indicated that an interview protocol shapes study objectives and guidelines. Similarly, Seidman (2013) indicated that an interview guide establishes a uniform way to gather comparable data from all respondents. Wang, Xiang, and Fesenmaier (2014a) used an interview protocol throughout their exploration of the acceptance, use, and influence of smartphones during

travel. Similar to Wang et al. (2014a), to maintain consistency between interviews, I followed an interview protocol (see Appendix C) to establish a uniform method of gathering analogous data from all participants.

Participants

Yin (2014) indicated that case study researchers must establish participant eligibility criteria. Likewise, Englander (2012) proposed that participants must have experienced the research topic. Shoup (2015) selected participants based on their knowledge and experience concerning electronic medical records and bar code administered medicine. Aligned with Shoup and Thomas (2015), this qualitative single case study involved a purposeful criterion sampling of eight business managers working in related job roles such as executive sponsor, project manager, team leads, and system administrator. Eligibility criteria for study participants were as follows: (a) employment as a public sector business manager within Southeast Alabama, (b) knowledge and experience regarding the fundamental business practices related to ERP system implementation, (c) willingness to participate in a digitally recorded interview and a written narrative protocol, (d) and willingness to allow publication of data in a doctoral study and other publications.

McAreavey and Das (2013) highlighted researchers' reliance on the approval of gatekeepers who regulate access to specific groups or organizations. Likewise, Oppong (2013) suggested that researchers frequently seek gatekeeper endorsement to gain access to participants. Similarly, Robinson (2014) indicated that researchers' friends and colleagues usually broker access to organizational participants. Schwarz et al. (2014)

used friends and colleagues to gain access to participants for their study of a process-based view of ERP implementation. Likewise, I used organizational administrators to gain access to research participants for this study. I sent a letter of cooperation to the research site to obtain confirmation of willingness to participate in the study (see Appendix E). Subsequently, I sent a letter of invitation to the potential participants via e-mail (see Appendix A), which included the informed consent form (see Appendix B) for respondents to review and sign electronically by replying to the e-mail.

Anyan (2013) claimed that the quality of data that respondents divulge is contingent on the interviewer–interviewee relationship. Likewise, Doody and Noonan (2013) argued that building trust and establishing rapport are necessary, given that participants will only answer queries openly if they are comfortable. Similarly, Seidman (2013) advocated assuring participants of the maintenance of confidentiality and anonymity, heeding respondents' perceptions and apprehensions, and endorsing partnership-supported trust building. Consequently, to build rapport and establish a working relationship with participants, I indicated that I would maintain confidentiality and anonymity, observed respondents' perceptions and apprehensions, and endorsed a partnership.

Research Method and Design

Method

I chose a qualitative methodology because my research involved participants' lived experience in occurrences and procedures rather than quantitative variables and correlations. Neuman (2013) indicated that qualitative research involves comprehending

a social phenomenon and generating words, rather than numbers, as data for analysis. Likewise, Marshall and Rossman (2015) stated that qualitative research involves (a) real-life reflections, (b) individual familiarities, (c) interfaces with emergent concepts, and (d) intelligent replications. The business community's recognition of the qualitative approach establishes its standing as an effective research methodology that gives researchers the capability to explore the intricacy of business-centric dilemmas and offers readers realistic organizational situations as paradigms (Myers, 2013). Kerns, Krist, Longo, Kuzel, and Woolf (2013) employed a qualitative research method to explore primary care patients' use and nonuse of a sophisticated, interactive preventive health record (IPHR) designed to endorse the acceptance of 18 suggested preventive medical amenities. The qualitative method offers researchers the opportunity to use interviews and other adaptive devices to gather data and address emergent inquires (Merriam, 2014).

I also reviewed quantitative and mixed methods methodologies. Morgan (2013) indicated that the objective of quantitative methodology is to develop and employ mathematical models, theories, and hypotheses about phenomena. Frels and Onwuegbuzie (2013) stated that a mixed methodology involves a combination of qualitative and quantitative data, methods, methodologies, or paradigms in a research study or set of related studies. Bhattacherjee (2012) indicated that quantitative or mixed methodologies are unsuitable when the data collection instrument involves personal interviews, observations, and so forth. A qualitative methodology allowed me to gain insights from participants' perceptions and experiences regarding the successful

implementation of ERP systems in a public sector organization, and to compare findings with outcomes from similar extant studies.

Research Design

A research design must involve rigor and internal dependability in the application of the selected technique, in so doing supporting the credibility of the research process (Bergold & Thomas, 2012). The researcher must classify, convey, and adhere to the methodological steps framing the paradigm and epistemology (Cutcliffe & Harder, 2012). Internal dependability indicates that the procedural steps align with the paradigm and the methodology (Alghamdi & Li, 2013).

I chose a single case study design to explore the ethological experiences motivating user adoption of ERP implementation. Yin (2014) indicated that a case study design is used in an effort to explore a program, occurrence, action, or procedure employing a variety of data-gathering procedures over a continuous period. Similarly, Pacho (2015) advocated case study research as particularly appropriate for exploring obscured or poorly understood situations. Likewise, Baškarada (2014) described case study as an appropriate and reliable framework for studying human experiences with established technologies that are incorporated into daily life.

I considered other designs such as phenomenology and ethnography; I chose a case study design over these methods because this approach supports exploration into tangible technology acceptance practices. Petty et al. (2012) indicated that the emphasis of phenomenological research is on recognizing people's exclusive lived experiences through exploring the significance of a phenomenon. Likewise, Tomkins and Eatough

(2013) posited that phenomenological design guarantees interpartisanship to explore and describe a lived experience as a method of rationalization. Similarly, Marshall and Rossman (2015) indicated that ethnography entails the exploration of a culture or social grouping. Both phenomenological and ethnographic methodologies were unsuitable for this study because its purpose was not recognizing people's exclusive lived experiences through exploring the significance of a phenomenon, and study participants were not part of culture or affiliates of a social grouping. Case study research provides a degree of flexibility that is unavailable in other qualitative approaches (Hyett, Kenny, & Dickson-Swift, 2014).

Suter (2012) indicated that saturation in qualitative research is the stage at which gathering new data fails to explain the phenomenon under exploration any further. Likewise, Mejia and Phelan (2014) described data saturation as the continuance of sampling and data gathering until no new theoretical understandings are attainable. Similarly, Fusch and Ness (2015) recommended using a data-gathering technique employed in extant research that established reaching data satiety. Frederick (2015), Swaratsingh (2015), and Thomas (2015) described continuing data collection and analysis until achieving saturation, at which point no further themes were identified. Aligned with Frederick, Swaratsingh, and Thomas, I used semistructured interviews to garner rich data from participants and explore the bound system of successful implementation of ERP systems in a public sector organization. Likewise, interviews continued until the data analysis demonstrated that the conceptions and patterns had reached satiety. I determined data saturation by employing coding and constant

comparison to detect groupings within a data set, discovering connections within these groupings, ascertaining core theories that define these affiliations, identifying areas of commonality and divergence, identifying true patterns in the data, and isolating irrelevant incidents. Interviews and analysis ended when additional data and further analysis failed to uncover any new thematic ideas related to the research area (saturation benchmark).

Population and Sampling

Edmonds and Kennedy (2012) described purposive sampling as the grouping of participants according to preselected criteria germane to the research question(s). Likewise, Barbour (2013) suggested that purposive sampling allows a researcher to identify participants who are rich with information to provide in-depth knowledge of a phenomenon. Similarly, Robinson (2014) stated that purposive sampling involves the notion that the researcher's knowledge of the population may be employed to choose which participants to include in the sampling. Marshall, Kitson, and Zeitz (2012) employed a purposive sampling their exploration of patient-centered care. Aligned with Marshall et al. (2012), this qualitative single case study involved a purposive sampling of eight business managers who met predetermined criteria germane to the research question. Eligibility criteria for study participants were as follows: (a) employment as a public sector business manager within Southeast Alabama, (b) knowledge and experience regarding the fundamental business practices related to ERP system implementation, (c) willingness to participate in a digitally recorded interview and a written narrative protocol, (d) and willingness to allow publication of data in a doctoral study and other publications.

Seidman (2013) established approximately 12 participants was a suitable sampling for interview research exploring theme emergence. Likewise, Marshall, Cardon, Poddar, and Fontenot (2013) recommended roughly, 6 to 10 participants for qualitative studies. Shoup (2015) employed a purposive sampling of 7 participants in her case study of patients' fulfillment strategies during an altering healthcare setting and continued interviews until data saturation occurred. Likewise, Thomas (2015) used a purposive sampling of 2 senior organizational IT leaders based on specified criteria that ensured data adequacy and attaining data satiety. Gray (2014) suggested data saturation could specify the ideal sampling size. Elo et al. (2014) defined data saturation as the point at which the data collection process no longer offers any new or relevant data. Walker (2012) described saturation as a tool for ensuring research reinforced by quality and adequate data. Consequently, a purposive sampling of eight participants was deemed suitable for this interview research exploring theme emergence.

Southeast Alabama is home to numerous Fortune 500 corporations from a wide range of technology, space, defense, retail, and service industries (University of Alabama, 2013). Based on my personal and professional knowledge, several public sector organizations within the metropolitan area have implemented or are in the process of implementing an ERP system. This knowledge suggested that Southeast Alabama was a prime area to conduct my research. Aligned with Shoup and Thomas, the population for this qualitative single case study comprised a purposeful criterion sampling of eight business managers working in related job roles such as executive sponsor, project manager, team leads, and system administrator. Eligibility criteria for study participants

comprised, (a) a public sector business manager within Southeast Alabama, (b) knowledge and experience regarding the fundamental business practices related to ERP system implementation, (c) willingness to participate in a digitally recorded interview and a written narrative protocol, (d) and grant the agreement to allow publication of data in a doc study and other publications. I ensured data saturation by continuing interviews until reaching a point of repetition or redundancy where the collection process no longer offers any new or relevant data.

Ethical Research

Yin (2014) recommended case study researchers follow ethical principles in conducting research to mitigate comprising human subjects. Likewise, Aluwihare-Samaranayake (2012) argued ethical principles safeguard participants and researchers, mitigate risks, guarantees faith, and confirms research trustworthiness. Similarly, Bhattacherjee (2012) suggested informed consent is one of the foundations of research ethics. I provided each participant a copy of the previously e-mailed consent form (see Appendix B) to read and sign before beginning of the interview. The consent form included the Walden University Institutional Review Board approval number. After reading the consent form, an acknowledgment from the participants indicated whether they fully understand the purpose of the consent form and if they had any questions.

Fisher (2012) argued a prospective research participant's ability to provide informed consent remain a dominant part of the ethics appraisal process. Likewise, Seidman (2013) indicated informed consent suggests participants must understand the research objective, the role of the researcher, as well as the participant expectations.

Similarly, Pietkiewicz and Smith (2014) advocated respondents must understand participation is voluntary enabling them to consent to or decline participation in the research. Participants' agreed to the terms designated in the consent form by replying to the invitation email with the words 'I Consent' (see Appendix B). The consent form also designated the intended use of their information as data for the research analysis. Demographic information from participants' informed consent sheet provided data related to gender, age, and experience. I advised participants that interview participation was voluntary, and they could withdraw at any time throughout the study. Prior to the publication of the study, I informed the participants of their option to withdraw their responses after completing interviewing.

Greaney et al. (2012) suggested safeguarding participants' confidentiality as another functional element of research ethics. Likewise, van Wijk and Harrison (2013) advocated the research methodology must be refined to ensure the safeguarding of participants' anonymity and confidentiality. Locke, Alcorn, and O'Neill (2013) suggested participants are usually only eager to volunteer personal or delicate information if researchers guarantee confidentiality. To ensure confidentiality, I did not use participants' or organization's names to label data files. Instead, all data files had a participant identification code comprising the order of sequence and date arrangement (DDMMYYYY). For example, participant labeling would be P113022015, P21302015, etc., in which P stood for the participant (interviewee), and the numeral represented the order of each interview. The letter F supplement to the participant's label identified follow-on interviews. All media comprising raw data such as the audio-recorded

interviews, notes, interview transcripts, reflective notes, and research logs, would remain in a locked container for 5 years after which I would destroy them. Petty et al. (2012) indicated incentives comprise everything subjects receive to encourage research participation. Klitzman (2013) viewed incentive as the application of excessive leverage on prospective contributors' research participation decision. Although incentives can enhance participation levels, rewarding participants is not a requisite (Molyneux, Mulupi, Mbaabu, & Marsh, 2012). I offered participants no incentive for their participation in the interview. My invitation email (see Appendix A) included participants' letter of consent (see Appendix B). Walden University's approval number for this study is 04-06-16-0374168, and it expires on April 5, 2017.

Data Collection

Instruments

Seidman (2013) identified the researcher as the principal data collection instrument in qualitative research studies. Qualitative researchers typically depend on four data collection techniques: (a) locale participation, (b) direct observation, (c) interviews, and (d) document analysis (Marshall & Rossman, 2015). Interviewing is by far the most dominant method of data collection in case study research (Yin, 2014). Researchers tend to choose the interviewing within a case study framework since this instrument divulges participants' construction of actuality and contemplation of their settings (Yin, 2015). At the root of in-depth interviewing is an interest in understanding the experience of other people and the meaning they make of that experience (Seidman, 2013). Shoup (2015) employed semistructured interviews in her exploration of hospital

patients' gratification strategies related to altering healthcare setting. As the primary instrument in this study, I employed semistructured interviewing aligned with Shoup to explore business managers' perceptions and experiences related to successful ERP system implementation in public sector organizations.

Jacob and Furgerson (2012) described interview protocols as a procedural guide for directing qualitative researcher through the interview process. Likewise, Bolderston (2012) indicated an interview protocol summarizes the research objectives and measures followed. Similarly, Doody and Noonan (2013) advocated using an interview guide provides a systematic and comprehensive approach to interviewing each participant by eliminating predetermined responses, and giving interviewers freedom to probe and explore within fixed areas of inquiry. I used an interview protocol (see Appendix C) to ensure uniformity and obtained participants' permission to record every interview with a digital recorder. Each interview was transcribed and saved to a Microsoft Word file. The subsequent steps included analyzing the data contained in the Word file with the NVivo10.0 software and then manually arranging responses into data clusters.

Koelsch (2013) suggested member checking is a significant element of qualitative research rigor. Likewise, Marshall and Rossman (2015) argued member checking transfers the legitimacy process from the researchers to the study participants. Similarly, Petty et al. (2012) indicated member checking involves taking data and analyzes back to study participants for confirmation of data and interview narrative integrity. Wang et al. (2014a) used member checking to enhance the rigor of their exploration of Smartphone use in daily life and tourism. Similar to Wang et al. (2014a), I conducted member

checking by allowing respondents to view the raw data and comment on their accuracy. Throughout this process, I asked participants whether themes or categories made sense, whether they established adequate confirmation, and whether the account was representative and precise, and sequentially integrated respondents' observations into the final narrative. I excluded any responses considered unethical, prejudice, or bias to maintain the integrity of the research.

Carter, Bryant-Lukosius, DiCenso, Blythe, and Neville (2014) described triangulation as the utilization of multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena. Likewise, Azulai and Rankin (2012) identified triangulation as a qualitative research strategy to test validity through the convergence of information from different sources. Wahyuni (2012) acknowledged four forms of triangulation: (a) method, (b) investigator, (c) theory, and (d) data source. Methodological triangulation involves using evidence from different types of data sources, such as primary and secondary research or interviews, documents, public records, photographs and observations (Carter, 2014). I employed methodological triangulation comprised interviews, observation, and organizational documents. Organizational documents comprised policies, procedures, internal memos, program proposals, organizational reports, and other outputs of the actions related to strategies public sector business managers used to successfully lead an ERP system implementation.

Data Collection Technique

Guest, Namey, and Mitchell (2013) suggested case study research traditionally comprise primary and secondary data. Likewise, Tracy (2013) advocated a major strength of case study research is the ability to use multiple sources and techniques. Similarly, Ravitch and Carl (2015) argued the added benefit of employing multiple resources enhanced the validity of case study findings through triangulation. Antwi and Hamza (2015) recommended observation, note taking during interviews, field notes, and documents provided by interviewees as methods appropriate for collecting research data. Aligned with Antwi and Hamza, my data collection techniques comprised semistructured interviews, participant observation, and document analysis.

Yin (2014) acknowledged conducting interviews as the main source of gathering data in case study research. Marshall and Rossman (2015) indicated that the interview in a case study is an extended interactive informal process. Englander (2012) suggested face-to-face interviews are typically longer, and thus, richer in terms of nuances and depth. Similarly, Seidman (2013) recommended 90 minutes as an appropriate length for each in-depth phenomenological interview to enable rapport and deep reflection. Astbury-Ward, Parry, and Carnwell (2012) argued the openness of the questions stimulated depth and vitality, which allowed new concepts to surface. Likewise, Barnao, Ward, and Casey (2015) highlighted the use of semistructured interviews during their exploration of perceptions related to detainee rehabilitation in a New Zealand forensic hospital setting. Interviewing has constraints and weaknesses (Doody & Noonan, 2013). Interviews comprise subjective communication; collaboration is vital (Marshall &

Rossman, 2015). However, participants may be reluctant or uncomfortable sharing all that the researcher hopes to explore, or they may be oblivious to recurrent patterns in their lives (Englander, 2012). Likewise, researchers may fail to ask questions that conjure lengthy accounts from participants due to a lack of knowledge, fluency, or expertise. Similarly, researchers may fail to comprehend participants' responses to the questions or various elements of the dialog (Bevan, 2014).

Onwuegbuzie and Byers (2014) advocated employing observational data to describe backgrounds, actions, people, and the significance of perception from the participants' viewpoint. Likewise, MacDonald (2012) indicated observation facilitates richer comprehension compared to interviews only, by providing knowledge of the context in which events occur, and enabling viewing emergent things participants are unaware of, or unwilling to confer. Similarly, Cooper, Fleischer, and Cotton (2012) used participant observation to strengthen their phenomenological exploration of students' experiences learning qualitative research in a range of educational arenas. Similarly, Nieboer et al. (2014) employed participant observation during their phenomenological exploration of the perceptions of health care providers regarding technology implementation. Nonetheless, similar to other data collection methods, observation has restrictions including observer preconception, and data reproduction complications (Guest et al., 2013).

Qualitative researchers frequently employ document analysis in junction with other data collection techniques as a means of triangulation (Tracy, 2013). Likewise, Merriam (2014) recognized document analysis as one of the principal qualitative data

resources along with interviews and observations. Similarly, Cobbold (2015) described document analysis as a form of qualitative inquiry wherein researchers infer documents to provide expression and connotation about an explored subject. Yin (2014) identified three main forms of documents: (a) municipal archives, (b) individual documents, and (c) visible confirmation, or relics. Gibbons (2015) used document analysis in his exploration of small cyclic industry strategies to enhance revenue through public partnerships. Regarding other qualitative data collection techniques, document analysis has both advantages and limitations. Strengths of document analysis comprise efficiency, availability, frugality, constancy, accuracy, and scope (Tracy, 2013). Document analysis weaknesses include detail inadequacy, low salvageability, and discernment partiality (Ravitch & Carl, 2015).

Consequently, data collection comprised face-to-face interviews, audio recordings, observation, field notes, and document analysis. I used the interview protocol (see Appendix C) as a benchmark to ensure uniformity of every interview. Each audio recorded interviews lasted between 60 minutes and 90 minutes at an organizational location approved by participants and me. I applied subjective listening, personal interaction, question framing, and gentle probing for elaboration. After each interview, I transcribed each interview verbatim, and then provided participants a copy to certify confirmation of data and interview narrative integrity, followed by data analysis. Similar to Mandal and McQueen (2012), I enhanced the rigor of my research through triangulation. Aligned with Antwi and Hamza; Gibbons; Nieboer et al., data sources included (a) semistructured interview, (b) casual observations of the interviewees and

surroundings, and (c) analysis of organizational documents. Aligned with the organizational agreement (See Appendix E), organizational documents comprised policies, procedures, internal memos, program proposals, organizational reports, and other outputs of the actions related to strategies public sector business managers use to successfully lead an ERP system implementation. Concurrent journaling, transcribing each interview, and employing a coding sheet helped me track every interview conducted and enhanced the rigor of the study. All data was stored in a locked container and stored for 5 years as explained earlier in the Ethical Research component of this study.

Marshall and Rossman (2015) indicated qualitative researchers employ member checks or respondent authentication to enhance research reliability and validity. Likewise, per Loh (2013), member checking involves taking the final report or specific description or themes back to the participants to provide them an opportunity to provide context or an alternative interpretation. Richardson (2014) employed member checking to enhance the rigor of her exploration of workplace performance enhancement strategies. Similar to Richardson (2014), I conducted member checking by allowing respondents to view the raw data and comment on their accuracy. Throughout this process, I asked participants whether themes or categories made sense, whether they established adequate confirmation, and whether the account was representative and precise, and sequentially integrated respondents' observations into the final narrative. I excluded any responses considered unethical, prejudice, or bias to maintain the integrity of the research.

Data Organization Techniques

Guest, Namey, and Mitchell (2013) argued successfully completing qualitative research depended on a reliable system to gather, track, organize, process, consolidate, store, safeguard, salvage, validate, and share data. Likewise, Yin (2015) advocated that rigorous consolidation is crucial to securing data and legitimizing research data and subsequent outcomes. Yin (2014) argued documentation of data activity is essential to maintaining data integrity and facilitating efficient write-ups during analysis. Similarly, Radley and Chamberlain (2012) suggested documenting data organization activities was significant to sustaining data reliability and enabling effective reporting during exploration.

Gale, Heath, Cameron, Rashid, and Redwood (2013) recommended gaining familiarity of the entire interview through audio recordings, transcripts, and any related or reflective notes as a crucial phase. Likewise, Al-Yateem (2012) suggested audio and video recording are valued instruments that aid in interview record keeping, which subsequently aids data analysis. Similarly, Tessier (2014) suggested tape recordings provided the means to gather expressions for transcription and redistribution. Cuhdar (2014) used audio recorded semistructured interviews to explore whether information technology pre-service teachers' acceptance of tablet PCs was within the Technology Acceptance Model framework. Similar to Cuhdar (2014) and Swaratsingh (2015), I digitally recorded all interviews and transcribed them verbatim. An additional digital recorder and my smartphone served as backup devices. Interviews that I recorded, and then manually transcribed for analysis comprised face-to-face, one-on-one interviews.

Additionally, I applied personal interaction; subjective listening, question framing, and gentle probing for elaboration based on the respondent's specific response, and ended every interview with a follow-up question.

Transcribed interview files had a participant identification code comprising the order of sequence and date arrangement (DDMMYYYY). For example, participant labeling would be P113022015, P21302015, etc., in which P stood for the participant (interviewee), and the numeral represented the order of each interview. The letter F supplement to the participant's label identified follow-on interviews. I used an Excel spreadsheet as a research log to track interviews and data from extant topic related research. I employed NVivo 10.0 to manage all the data comprising transcripts, audio files, and digitized documents. NVivo aided in organizing and coding of common themes throughout the proposal. Miles, Huberman, and Saldaña (2013) advocated that NVivo provides the opportunity to discover and salvage references and import data from Word, OneNote, or Excel. Additionally, Castleberry (2014) highlighted that NVivo 10.0 contains a feature facilitates recorded audio interview transcription.

Using NVivo 10.0 assisted me in collecting, organizing, and analyzing transcribed interviews. Additionally, NVivo 10.0 supported code development and recognizing themes and patterns throughout the analysis process. Hilal and Alabri (2013) indicated NVivo software employs a scheme of nodes, or categorical labels that support data organization and thematic category development. I utilized the NVivo node structure when coding and thematizing the data. I stored both audio and text interview files in a password-protected data storage to ensure confidentiality. I was the only person with

access to the files. All media comprising raw data such as the audio-recorded interviews, notes, interview transcripts, reflective notes, and research logs, remained in a locked container for 5 years after which I would destroy them.

Data Analysis Technique

Carter et al. (2014) described triangulation as employing multiple methods or data sources to develop a comprehensive understanding of phenomena. Likewise, Heale and Forbes (2013) recognized triangulation as a qualitative research strategy to assess validity via the convergence of information from different sources. Similarly, Poortman and Schildkamp (2012) emphasized that triangulation significantly enhances rigor in case study research. Richardson (2015) used methodological triangulation as the appropriate data analysis process in her exploration of organizational achievement improvement strategies. Aligned with Richardson, I employed methodological triangulation comprise interviews, observation, and organizational documents.

Yin (2014) argued data analysis consist of examination, categorization, tabulation, or otherwise recombining the data to address the primary proposals of a study. Likewise, Silverman (2013) indicated qualitative data analysis normally comprises an iterative or cyclic process that begins in the early stages of data collection and continues throughout the study. Similarly, Petty et al. (2012a) described a qualitative data analysis approach that applied the principles of inductive reasoning while also employing predetermined code types to guide data analysis and interpretation. Through reflection on the conceptual framework, and querying the data, categorized concepts emerge (Noble & Smith, 2014). Taxonomies of comprehensive patterns and connotations are created

consistent with extant context (Houghton, Murphy, Shaw, & Casey, 2015). Within an interconnected approach, extant themes are recognized, wherein codes and subcodes support the creation of groupings, and affiliation and perception codes support the generation of themes and theory (Noble & Smith, 2014). Data used for analysis included (a) transcript notes from semistructured interviews, (b) field notes from casual observation, and (c) notes from a review of organizational document. Organizational documents comprised policies and procedures, vendor specifications, and internal memos.

Aligned with Swaratsingh (2015), every quote relevant to the experience was recorded, and invariant constituents determined by testing each expression for relevance, monotony, or ambiguity. Second, all unrelated, monotonous, or ambiguous accounts were removed. Clustering related invariant constituents of experience into a thematic label that formed the main themes of the experience. Next, invariant constituents and themes were checked against the complete record of the participant, including verbatim samples from the transcribed interviews. Next, an individualized structural description was created for each participant based on the individual textural description and imaginative variation and a textural-structural description for each participant of the meanings and essences of the experience. Finally, invariant constituents and themes were incorporated, and a composite description of the meanings and essences of the experience developed, representing the group.

Humble (2012) advocated Nvivo software aids qualitative researchers during analysis with coding and to link themes within and across interviews. Sotiriadou,

Brouwers, and Le (2014) suggested NVivo aids in data management and organization while facilitating analysis, theme recognition, gleaning comprehension, and emergent assumptions. Likewise, Ishak and Bakar (2012) described using NVivo to: (a) create diverse interview documents, (b) document management via folders, (c) map variables via nodes, (d) query data via matrix coding, and (e) create coding consistency via coder contrast and Kappa value. Similarly, Azeem and Salfi (2012) indicated NVivo aids in data conceptualization, coding, manipulation, browsing, coding, interpretation, and providing rapid and precise data record access. The NVivo 10.0 assisted in the processes of storage, management, coding, analysis, theme recognition, and linking themes within and across interviews. Consequently, I employed the principles of inductive reasoning and predetermined coding to explore data, focus on key themes, and link focal themes with the literature and conceptual framework, which, along with using NVivo 10.0 established a cohesive method of data analysis.

Reliability and Validity

Lincoln and Guba (1985) proposed the following criteria that establish trustworthiness in qualitative research: (a) dependability, (b) credibility, (c) transferability, and (d) confirmability. Yilmaz (2013) indicated these criteria are comparable to the quantitative concepts of internal validity, external validity, reliability, and objectivity. I used the qualitative-specific measures advocated by Lincoln and Guba (1985) to ensure the rigor of the study.

Dependability

Petty et al. (2012) suggested dependability ensures the consistency and repeatability of research outcomes. Braun and Clarke (2013) advocated that clarity regarding the execution, analysis, and presentation of the research determine the dependability. Likewise, Elo et al. (2014) suggested detailing each process in the study enables an external researcher to repeat the inquiry with similar results. Lincoln and Guba (1985) recommended maintaining an inquiry audit and exercising reflexivity as techniques for establishing the dependability. Chan et al. (2015) used an inquiry audit and reflexivity to establish the dependability of their study describing young people's experiences of using smartphones. Aligned with Chan et al., I enhanced dependability by maintaining an audit trail through comprehensive notes related to the contextual background of the data and the motivation and basis for all procedural decisions. Like Elo et al. (2014), a thorough description of the research processes, instrument, findings, and context is provided in various sections of this document to enable readers, participants, and researchers determine the quality, soundness, and the extent of transferability of the study to another setting.

The reflexive account must provide the basis for resolutions, dispositions, and individual encounters experienced throughout the study (Tufford & Newman, 2012). Chan et al. (2013) used a reflexive journal to jot down views, outlooks, observations, and decisions, which provided an audit trail and allowed personal reevaluation. I maintained a reflective journal (See Appendix D) illustrating the transparency of decisions made throughout the research process. The thoughts and ideas documented during data

collection helped in the development of the final themes and sub-themes I illustrated in the final research report.

Elo et al. (2014) identified member checking an important strategy to ensure rigor in qualitative research. Member checking offers a chance for participants to validate the researcher's interpretation of their interview (Harper & Cole, 2012). Azeem and Salfi (2012) suggested NVivo enhances qualitative rigor by providing a comprehensive audit trail of decisions made during data collection and analysis. Likewise, Ishak and Bakar (2012) indicated the query tools in NVivo allow researchers to audit findings and guard against excessive emphasis on rare findings that happen to suit the researcher's preferred argument. Similarly, Sotiriadou et al. (2014) advocated running queries within Nvivo establishes the dependability and confirmability of data. Wang et al. (2014a) used Nvivo to facilitate the management of transcripts and the coding process during their exploration of mechanisms shaping the adoption, use and impact of smartphones in travel. Similar to Wang et al. (2014a), NVivo 10.0 provided a comprehensive audit of decisions made during data collection and analysis. The query tools found in NVivo 10.0 allows the audit of findings and demonstration of the discovery of passages matching the criteria set in a query (Wahyuni, 2012). Validating passages will ensure that any issue described within the findings are not the perception of just one individual, but rather confirm several participants have the same opinion (Barbour, 2013).

Creditability

The credibility criterion involves establishing that the research outcomes are trustworthy or plausible from the research participants' perspectives (Venkatesh, Brown,

& Bala, 2013). Lincoln and Guba (1985) recommended prolonged engagement, persistent observation, triangulation, peer debriefing, negative case analysis, referential adequacy, and member checking as a series of techniques that can be used to establish credibility. Likewise, Kemparaj and Chavan (2013) indicated that gathering data from multiple sources to validate explanations (triangulation) also enhances qualitative research credibility. Wahyuni (2012) suggested employing peer debriefing to assess perceptions, concepts, and exploration with associates indifferent to setting enhance the credibility of the researcher's interpretation of the data. Merriam (2014) advocated employing an expert to support the credibility of the outcomes. Williams and Murray (2013) advocated that validating the transcribed data with the research participants (member checking) ensured accuracy and, therefore, credibility. Robinson, Solnet, and Breakey (2014) ensured the credibility of their study through describing a multisource process comprised of audio recordings, field notes, transcripts, and memos, using NVivo 10.0, and member checking.

As stated above, member checking is an important strategy to ensure rigor in qualitative research (Elo et al., 2014). Member checking offers a chance for participants to validate the researcher's interpretation of their interview (Harper & Cole, 2012). Allowing participants to validate their interviews ensures credibility (Maxwell, 2013). I conducted member checking so that participants could acknowledge and respond to their accounts. Each participant received a copy of the uncovered themes, analysis, and interpretations garnered from their interviews to review and acknowledge the rationality, accuracy, and credibility of the findings.

Houghton (2013) recommended researchers spend sufficient time onsite to gain a full comprehension of the occurrence under exploration. Likewise, Rennie (2012) recommends becoming situation-oriented to appreciate and understand the context, detecting, and accounting for data distortions, exercising bracketing throughout the study, establishing rapport, and building trust. Additionally, Houghton et al. (2013) suggested completeness of data mainly concerns gathering multiple perspectives from a variety of sources to provide as complete a picture as possible of phenomena.

Consequently, I spent sufficient time onsite to gain a full comprehension of the occurrence under exploration, become situation-oriented to appreciate and understand the context, detect, and account for data distortions, exercise bracketing throughout the study, establish rapport, and builds trust. Interviews and data collection continued until achieving saturation. Observed and interview data were contrasted to verify consistency over time, compare the perspectives of managers, and validate interview data with program documents and other written evidence to corroborate interviewees' accounts. The similarity in the outcomes of these data collection methods confirmed findings. Completeness of data mainly concerns gathering multiple perspectives from a variety of sources to provide as complete a picture as possible of phenomena (Houghton et al., 2013).

Antwi and Hamza (2015) recommended conducting deviant case analysis to locate and discuss elements of the data that fail to support or contradict patterns or explanations, to revise, broaden, and confirm the patterns emerging from data analysis. Likewise, Petty et al. (2012) suggested using referential adequacy to test the soundness of

the outcomes, seeking inconsistencies, and considering alternatives, opposing details, and contravening instances. Similarly, Berger (2013) recommended analyzing archived data following referential adequacy as a way to test outcome validity. Additionally, Harper and Cole (2012) identified member checking as an effective method of eliminating the likelihood of distortion and misunderstanding of participants' perceptions. Maxwell (2013) suggested employing a semistructured interview guide ensures using the same overall line of questioning for every participant, and strengthens the credibility.

Consequently, I conducted deviant case analysis to locate and discuss elements of the data that fail to support or contradict patterns or explanations to revise, broaden, and confirm the patterns emerging from data analysis. I analyzed the archived data to test the validity of my findings and conducted member checking to allow participants an opportunity to acknowledge and provide feedback regarding the authenticity and consistency of their interview. The semistructured interview protocol (Appendix C) ensured the same overall line of questioning for every participant and strengthened the credibility. Additionally, my familiarization with the subject and participants' extensive knowledge both in methodology and in this subject strengthened the credibility.

Yin (2014) argued the main advantage of the case study design is the prospect of employing diverse data resources via triangulation. Likewise, Poortman and Schildkamp (2012) suggested triangulation enhanced creditability through employing numerous techniques to explore a single occurrence. Similarly, Houghton et al. (2013) argued the two main purposes of triangulation are to ensure ratification and completeness. Ratification comprises a comparison of data collected from several sources to explore the

degree to which outcomes are verifiable (Houghton et al., 2013). Collecting data from diverse sources deemed reliable enhances confidence in the credibility of research outcomes (Houghton et al., 2013). Completeness of data surrounds portraying a thorough a picture of the phenomenon through collecting numerous viewpoints from a range of sources (Houghton et al., 2013). I employed methodical triangulation to enhance the creditability.

Transferability

Venkatesh et al. (2013) described transferability as the degree in which the research is transferable to other contexts. Lincoln and Guba (1985) recommended providing a thick description, which adequately described the original context of the research for the reader to make informed decisions about the transferability of the findings to their specific context. Likewise, Merriam (2014) advocated the reader must be able to note the specific details of the research situation and methods, and compares them to a similar situation of familiarity; comparable specifics deems the research comparable. Similarly, Silverman (2013) advocated the necessity for researchers to provide a highly comprehensive account of their situation and methods.

Robinson et al. (2014) provided detailed and appropriate descriptions to allow readers to make educated assessments concerning the suitability of the outcomes to specific contexts. Likewise, Zadvinskis, Chipps, and Yen (2014) included accounts of the context and samples of raw data to allow the contemplation of alternate explanations through employing direct quotes from the participants. Similarly, Chan et al. (2015) used excerpts from their observational field notes to demonstrate how themes developed from

the data. In the final report, similar to the work of Chan et al., Robinson et al. (2014), and Zadvinskis et al. (2014), I provided detailed and appropriate descriptions to allow readers to make educated assessments concerning the suitability of the outcomes to specific contexts, used direct quotes to allow the contemplation of alternate explanations, and used excerpts from observational field notes to demonstrate how themes developed from the data. Providing thick description allowed readers and researchers to review the research data to establish whether the study was transferable to a different research setting, considering participants, location, data collection method, the length of engagement with interviewees, period of data collection, and participants' industry.

Confirmability

Venkatesh et al. (2013) described confirmability as the extent to which research outcomes are confirmable or verifiable by others. Likewise, Knudsen et al. (2012) suggested confirmability questions whether the data collected supports the research findings. Similarly, Seidman (2013) indicated confirmability established whether the researcher has been biasing during the study. Lincoln and Guba (1985) recommended performing a confirmability audit, maintaining an audit trail, performing triangulation, and exercising reflexivity as techniques to enhance confirmability.

Lincoln and Guba (1985) recommended conducting external audits as a method of promoting research precision or soundness. Likewise, Houghton et al. (2013) suggested using an external researcher to examine precision and evaluate whether or not the data supports outcomes, analyzes, and conclusions. Similarly, Loh (2013) indicated the external audit provides an opportunity to summarize pilot outcomes, to evaluate the

suitability of data, and vital assessment that can result in further data gathering and the development of stronger findings. Kemparaj and Chavan (2013) recommended maintaining an audit trail throughout the study to demonstrate the development of each decision. Additionally, Berger (2013) advocated using multiple methods to maintain an audit trail aided in facilitating deeper understanding.

Adhering to Guba (1985), my chair and University Research Reviewer (URR) acted as external researchers to perform a confirmability audit examining both the procedures and product of the study. These external researchers examined the precision and evaluated whether or not the data supported outcomes, analyzes, and conclusions. The external audit provided an opportunity to summarize outcomes, to evaluate the suitability of data, and vital assessment that could result in further data gathering and the development of stronger findings. Maintaining an audit trail throughout the study demonstrated the development of each decision. Using multiple tools to maintain an audit trail, including source triangulation comprising audio recorded interviews, transcriptions, observation, and organizational documents ensured rigor.

Probst and Berenson (2014) described reflexivity as the approach of methodically focusing on the perspective of creating knowledge, particularly to the researcher's influence, at all phases of the research process. Likewise, Tribe, Xiao, and Chambers (2012) advocated that a reflexive journal connects all research data sources to uncover underlying developments within the study. Similarly, Tribe et al. suggested maintaining a reflective journal serves as a vital explanatory systemic and rigorous instrument. I maintained a reflective journal (Appendix D) throughout the research process and

recorded procedural decisions and the reasoning behind them, the mechanics of the study, and reflections on occurrences in terms of my individual beliefs and interests. The use of a reflective journal helped me maintain epoche throughout the research process.

Transition and Summary

The purpose of this qualitative single case study was to explore strategies public sector business managers use to successfully lead an ERP system implementation. I began Section 2 with my role as the researcher in conducting a quality study, followed by a description of the study participants along with strategies for gaining access to and working with them. I selected qualitative method as a research method most appropriate for this study and single case study inquiry for the research design. My research population comprised a purposeful sampling of 8 business managers in Southeast Alabama working in related job roles and based on established eligibility criteria. The unified theory of acceptance and use of technology (UTAUT) model formed the conceptual framework. My data collection comprise semistructured interview, casual observations, document analysis, which ensured rigor through method triangulation. I gathered policies and procedures on ERP implementation within the organization. I used NVivo 10.0 to assist me in collecting, organizing, and analyzing transcribed interviews. Additionally, NVivo 10.0 supported code development and recognizing themes and patterns throughout the analysis process. I began Section 3 with a review of the purpose of the study, a reminder of the research question, and a brief summary of the study. Section 3 contained the presentation of findings, the application of study outcomes to professional practice, the implications of the study of social change and recommendations

for actions. Section 3 ended with recommendations for further study, a reflection of the researcher's experience in the study, and a concluding statement for other researchers to contemplate on overall study's contribution to the knowledge related to ERP implementation within the public sector.

Section 3: Application to Professional Practice and Implications for Change

The purpose of this qualitative single case study was to explore strategies that public sector business managers use to successfully lead ERP system implementation. In this section, I provide the research outcomes, professional practice applications, social change implications, and recommendations for action and additional research. Additionally, this section contains endorsements of strategies that public sector business managers use to successfully lead ERP system implementation. This section ends in a personal contemplation of my research experience.

Overview of Study

I explored successful leadership of ERP system implementation in the public sector through the UTAUT lens. The study has theoretical implications involving the use of UTAUT in ERP frameworks, as well as practice implications concerning the design and development of ERP implementation strategies appropriate for public sector settings. I employed the principles of inductive reasoning and predetermined coding to explore data, focus on key themes, and link focal themes with the literature and conceptual framework, which, along with the use of NVivo 10.0, established a cohesive method of data analysis. Categorical themes emerged from data analysis of numerous sources. The themes offered a view of strategies that public sector business managers use to successfully lead ERP system implementation. The UTAUT model developed by Venkatesh et al. (2003) provided a guide to shape interview questions based on each model construct. Interviews consisted of open-ended questions directly linked to UTAUT constructs and moderators. Employed strategies emerged based on

predetermined themes directly related to the UTAUT conceptual framework. Five themes emerged: (a) management endorsement, (b) change management, (c) training and education, (d) dedicated resources, and (e) governance.

Presentation of the Findings

The overarching research question for this study was: What strategies do public sector business managers use to successfully lead an ERP system implementation? I employed a qualitative design involving three data-gathering methods to facilitate triangulation. The conceptual framework that I employed was the UTAUT developed by Venkatesh et al. (2003). For this qualitative single case study, I used a purposeful criterion sampling of eight business managers working in related job roles such as executive (26%), project manager (12%), team lead (50%), and system administrator (12%). Five participants (63%) were male, and three participants (37%) were female. Eligibility criteria for study participants were as follows: (a) employment as a public sector business manager within Southeast Alabama and (b) knowledge and experience regarding the fundamental business practices related to ERP system implementation. I gained access to research participants for this study through coordination with their employers, public listings from the local Chamber of Commerce, and recommendations from a network of friends. Subsequently, I sent a letter of invitation to the potential participants via email (see Appendix A), which included the informed consent form (see Appendix B) for respondents to review and reply to the email with the words “I consent” as confirmation. Table 1 presents demographic data specific to the research population.

Table 1

Participant Demographics

Group	Item	% of total	Participant (*N* = 8)
Gender	Male	62%	5
	Female	38%	3
Age group			
	21-30	12%	1
	31-39	25%	2
	40-49	51%	4
	50-60+	12%	1
Leadership status			
	Executive	26%	2
	Project manager	12%	1
	Team lead	50%	4
	System administrator	12%	1

The UTAUT framework was appropriate for my research because the components helped to frame my understanding of the business process. Key constructs underlying the theory are (a) performance expectancy, (b) effort expectancy, (c) social influence, and (d) facilitating conditions (Venkatesh et al., 2003). The initial three constructs are direct factors of acceptance and conduct, and the fourth construct is a direct cause of utilization behavior (Venkatesh et al., 2003). Additionally, UTAUT posits the role of four key moderator variables: gender, age, experience, and voluntariness of use (Venkatesh et al., 2003). The data collected were analyzed using NVivo 10.0. I demonstrated conceptual and literature alignment by illuminating tangible paradigms offered by interviewees directly linked to UTAUT constructs and moderators. Table 2 presents the interview questions and associated themes.

Table 2

Interview Questions and Primary Themes (N = 8)

Interview question	Primary theme
1. What strategies were employed to encourage the belief that using the ERP system would enhance job performance (performance expectancy)?	Management Endorsement Change management Training and education
2. What activities were employed to enhance the ease associated with using the system (effort expectancy)?	Management Endorsement Change management
3. How were peer (friends, coworkers) or domestic influences (relatives) related to acceptance of the new technology (social influences) managed?	Management Endorsement Change management Training and education
4. What strategies were employed to ensure the existence of organizational and technical infrastructure (such as tech support) to support using the new system (facilitating condition)?	Management Endorsement Change management Dedicated resources
5. How were end users encouraged to consciously continue using the system?	Management Endorsement Change management Governance
6. What were your strategies to enhance male versus female users' desire to consciously adopt the system?	Management Endorsement Change management Training and education
7. What strategies were employed to encourage older versus younger users to consciously desire to adopt the system (age)?	Management Endorsement Change management Training and education
8. What strategies were employed to address experienced versus inexperienced users' anxiety associated with using the system?	Management Endorsement Change management Governance
9. What strategies were employed to mitigate users' anxiety associated with the mandated use of the system?	Management Endorsement Change management Training and education Governance

Theme 1: Management Endorsement

Management endorsement emerged as a significant strategy employed to effectively lead an ERP system implementation. Management endorsement supports employees' recognition of a new system's benefits (Bansal, 2013), thus enhancing the recognized practicality of ERP. Emergent research suggested that a successful ERP implementation required top management support because an implementation encompasses substantial alteration to current business practices as well as a large amount of capital investment. Consequently, gaining the requisite degree of senior management support is of paramount importance (Nwankpa & Roumani, 2014). Participant perceptions and document content are consistent with references in the literature. According to Caya et al. (2014), management endorsement is required because implementing an ERP system demands the creation of organization-wide commitment. All participants (n = 8) acknowledged that management endorsement was critical to ERP implementation success. Two subthemes emerged from this theme: (a) open communication and (b) highlighting lessons learned and ERP benefits.

Open communication. Hoch and Dulebohn (2013) stated that open contact establishes reliance and the conveyance of data required for technology reception. Within a UTAUT framework, Nwankpa and Roumani (2014) argued that poorly conveyed implementation goals adversely influence end-users' capability to comprehend new business practices and result in inadequate usage. Consequently, open communication between management and employees is important and should be two-way communication to make employees realize the usefulness of the ERP system (Hoch & Dulebohn, 2013).

All participants (100%) described a comprehensive management endorsement strategy to garner employee buy-in that involved open communication of the overall value and importance of the implementation to the entire enterprise by using various communication platforms. Participants described the use of an endorsement strategy all the way from the top down to the end user to make sure that every worker knew the why, the when, and the how of the implementation. Communication platforms included town halls, publications, social media, road shows, video teleconferencing (VTC), and other instruments. As described by one participant, "If you walk through our depot today every message on every board is the implementation of our system and why are we gonna do it" (P001). Another participant indicated, "We had education programs in place, or informational programs that educated the workforce on the benefits of using the system and why we were implementing the system" (P002). Likewise, Participant P007 explained, "I think the singular and most successful strategy we employed was a very robust communications campaign plan."

Highlighting lessons learned and ERP benefits. While many ventures may be similar in their contexts, the products involved, and even the clients, the uncertainty and variable objectives that define the project environment give each project uniqueness. As a result, organizations can learn from previous experiences and pass the lessons gathered during the project's lifecycle on to future projects. Previous IS experience is frequently mentioned in extant literature as a critical factor driving ERP success (Olszak & Ziemba, 2012). Additionally, end users' collective trust of an ERP system is crucial, particularly in settings with multiple users, and bridges practicable margins. Hou (2014) emphasized

that an open exchange of principles and views hinges on establishing an impression of joint conviction and assurance among numerous stakeholders. Additionally, he argued that this collective sense of trust surrounding an ERP system's advantages aids organizational stakeholders in discovering commutuality and common resolve. According to Oliveira et al. (2014), confidence in ERP systems' advantages were firmly linked to PEU and PU. Consequently, mutual feelings among workers, their peers, and executives improve end users' acceptance of ERP system implementation (Shachak et al., 2013). Participants described a strategy that crossed functional boundaries and allowed the exploitation of corporate practices and lessons learned throughout a project's lifecycle to gain knowledge through the experience. Additionally, participants indicated that ERP benefits were highlighted to encourage enterprise buy-in within this environment. One participant stated, "We ensured there was education and training in place based on personal and industry lessons learned" (P007). Another participant noted, "The strategy was to continuously stress the importance of harnessing the benefits provided by the new ERP system to reduce many of our internal control gaps, and standardize our business practices" (P008). Similarly, P004 explained,

> We painted the picture that the overarching reason was not to decrease jobs, but instead to increase efficiency through highlighting the benefits provided by the system and what effect it was going to have on demand and availability in supporting the warfighter.

Likewise, P003 indicated,

> Before the implementation we conducted an operations workshop, where we brought in all the managers and explained the benefits of using the new system versus the old legacy systems, how it would change our business processes, and how their feedback and endorsement was critical to the implementation success.

Theme 2: Change Management

Change management is vital for effective commercial practice reconfiguration and technology usage (Pishdad & Haider, 2013). Organizations are unable to accept new technology and exploit benefits without a suitable change management strategy (Doherty et al., 2012). Countless ERP implementation failures have been due to insufficient emphasis on corporate procedures and change management (Maas et al., 2014). Ram et al. (2013) estimated that 50% of ERP implementations were unsuccessful in achieving anticipated advantages due to organizations significantly undervaluing the degree of change management. Recognizing the necessity of change is very significant because executives and stakeholders are more inclined to endorse an ERP implementation due to a greater need for change (Ahmad et al., 2013). Timely user participation is crucial in generating enterprise-wide interest in employing the system (Bansal, 2013). Two subthemes emerged from this theme: (a) gap analysis and (b) user engaged metric development.

Gap analysis. ERP implementation failures are due to several factors, but extant research indicates that most failures result from structural and communal, rather than procedural issues (Ahmad et al., 2013). There are numerous challenges that influence ERP ventures in the implementation phase, which must be recognized early in order to

mitigate prospective hazards later on (Choi et al., 2013). Consequently, evaluating and examining organizational readiness is crucial (Habib, 2013). During ERP implementation, gap analysis represents recognizing and recommending methods to channel gaps (Keong et al., 2012). Initial recognition of ERP functions and requisite organizational gaps and determination of resolutions are major factors during ERP implementation (Olszak & Ziemba, 2012). The decision to implement ERP encompasses major adjustments to include data integration under a single platform (Bernroider et al., 2014). Gap analysis enables the full realization of ERP advantages through the recommendation of modifications and corresponding IT competencies with end user functions (Anaya, 2013).

All participants described employing gap analysis to recognize inconsistency between tangible and anticipated performance, clarify preferred outcomes, set restrictions, and evaluate all elements that sustain or hinder performance. Participants described a strategy of engaging the workforce, garnering feedback, identifying gaps, and then applying mitigation. Tools used to garner data included questionnaires, user assessments, and one-on-one interactions. Participant P003 indicated, "Our strategy was to engage the workforce and get their point of view, and then from there identify gaps and apply mitigation strategies." Another participant stated, "During the implementation we worked directly with tech support to develop assessments to bridge gaps in the interim" (P005). Participant P007 explained,

> We had questionnaires comprised of different frequently asked questions and that information we used to bridge gaps. For instance, participants highlighted a

> knowledge gap at the middle management level that was identified and mitigated through questionnaires. Gap analysis revealed middle management training lacked end-user shop floor familiarity, as well executive metric reporting training. Through gap analysis they discovered gaps in middle management training and developed mitigation strategies.

According to P008,

We determined what reports they used to manage their processes through questionnaires, and then we developed internal reports and desk guides for them to continue to manage and extract the data that they need to continue to manage their processes daily.

User engaged metric development. Kibera (2013) described engagement as a state of drive, participation, and efficiency. Similarly, Kim, Kim, and Wachter (2013) described engagement as a social flow lacking any deliberate conviction. Likewise, Nwankpa and Roumani (2014) argued that engagement is not a temporary and precise state, but is a more tenacious and persistent cognitive–affective state. Within a commercial and personal framework, there is a strong association between engagement and viability through consumer gratification, enhanced sales, worker retention, and output (Kim et al., 2013). When organizations enhance end users' engagement and establish an atmosphere that aids in fostering engagement, they can greatly enhance the probabilities of realization (Parameswaran, Kishore, & Li, 2015). Metrics are set to assess levels of training, acceptance, and performance (HassabElnaby, Hwang, & Vonderembse, 2012). These metrics gauge the effectiveness of new process integration

into end users' everyday tasks and how training is facilitating meeting business objectives.

All Participants (100%) outlined engaging users and garnering their feedback to develop metrics, which were then used to develop training and gauge implementation progress. Six participants (75%) described weekly and monthly metric assessments to evaluate system adoption and usage. Four participants (50%) highlighted management involvement through weekly personal visits to the shop floor. One participant indicated, "We check metrics every week and every month to see if we're falling behind and whether end-users are using the system for its intended purpose" (P008). Another participant indicated, "Every director is responsible for going down on the shop floor at least once a week and ensuring that they are using it, we call them traveler walks" (P002). Six participants (75%) described developing standard operating procedures (SOP) to standardize processes and tie them to organizational objectives. One participant indicated that while working with the implementation team, power-users documented how business functions are performed within the ERP system (P006). Another participant suggested this documentation was used to create the standard operating procedures that would be in place for successful execution (P003). Likewise, participant P005 suggested the documentation also allowed the power-users to identify what training techniques would work best.

Theme 3: Training and Education

An ERP implementation involves huge structural modification and consequently faces the challenge of mitigating corporate value reception obstacles (Choi et al., 2013).

Consequently, change management is critical for enabling ERP implementation reception. Providing stakeholders suitable training is an essential part of the change management process. Training provides a sound opening to assist end-users with adapting and developing positive outlooks towards the new system (Keong et al., 2012). Furthermore, they argued that training enables end-users to recognize and appreciate ERP system benefits (Keong et al., 2012). Additionally, the user's technological familiarity and the task and technology suitability can further contribute to PEU (Oliveira et al., 2014). Hence, training becomes a necessary to improve end-users' familiarity, proficiency and has a direct influence on their opinion regarding system efficacy. According to Huang et al. (2004), inadequate end-user training is the third highest factor of ERP risk. Umble et al. (2003) reinforced this argument by suggesting end-users create workarounds when they do not comprehend how a system works. Additionally, stakeholder training and responsiveness are rated as the second most significant dynamic to gain stakeholders' interest following senior management endorsement (Ahmad et al., 2013). Not only does training aid users cope with the new system, but training provides them a sense of participation during the implementation process (Ahmad et al., 2013). Training will support users learning what ERP means, how it will influence their work and thus influence their impression of the ease of use related to the system procedures and standards. Two subthemes emerged from this theme including (a) tailored multi-method training, and (b) user participation.

Tailored assorted training. Participants described tailored training based on assessing organizational inclination and the current stages of end-user's ability and

familiarity corresponding to those the new setting necessitate. Participants described mapping end-users' training to the individual user profile, comprising users' workflow participation and interaction. This training method facilitates bridging gaps from the old to the new system. Additionally, 7 participants (88%) described using a train-the-trainer strategy which enabled the power-users to work closely with the implementation team facilitating a full understanding of the ERP system as well as any modifications. Participants P002 and P004 suggested hands-on training allow for all operational areas to be acknowledged and promotes a healthy coach-to-peer relationship. Likewise, P008 stated, "We spent a lot of time training the power-users and making sure we had the courses and training aids designed right." Additionally, participants describe a myriad of training techniques which included practical exercises, lecturing, simulations, computer-based education, and on-the-job training. All participants (100%) described virtual training, classroom training, cross training, practice exercises in training database, and a swarm team as extensive education and education strategy employed with experienced versus inexperienced users' anxiety associated with using the system. One participant indicated, "Our strategy revolved around training, we took most of the workforce that was going through the switch to go through several different training courses to expand their understanding in use of the ERP as a power-user" (P002). Another indicated, "We tried to make sure that they were able to attend as much training as possible" (P003).

User participation. All participants described employing power-users as an invaluable resource and should be used in developing the approved solution since they know how their current operations function better than anyone else. One participant

indicated the power-users essentially aid in making sure all business facets are accounted for in the approved ERP solution (P001). Another participant suggested this enabled the power-users to become the coaches for the company; enhancing their skill set and expanding their knowledge of the system by performing peer trainings. Participant P004 stated, "Using power-users, people they're familiar with, people sitting side-by-side with them, was very positive." Similarly, participant P002 indicated, "This peer-to-peer strategy endorsed using the system and promoted user confidence." Likewise, participant P003 stated, "We utilized power-users we recruited from each business area to provide firsthand accounts of the benefits to their peers." Similarly, participant P005 stated, "Utilizing the power-users or peer-to-peer training directly from the workforce has helped us immensely because the fact that employees are seeing their peers being trained and becoming experts makes them want to do that." Participant P006 highlighted, "They get to learn from someone they're familiar with, someone who's been down in the trenches with them and understands their point of view." Additionally, 2 participants described a train-the-trainer strategy to train key users and subsequently tasking them with training other staff members (P005 and P007).

Likewise, extant research suggested, in contrast to older people, young people are more inclined to be fascinated by extrinsic incentives (Liu et al., 2014). In contrast, older users are likely to find innovative systems more complex but do not appear to find them any less practical when executing their work (Teo & Noyes, 2014). Keong et al. (2012) suggested age is a significant moderator concerning EE and system usage, but age was an insignificant moderator between PE and system usage. Usually, older users may find it

difficult to adjust to using a new system, and EE has a significant influence on system use (Keong et al., 2012). Consequently, older users have lower PE as learning the new system involves extra effort, and they do not believe using the system will improve their job performance (Hur, Kim, & Kim, 2014). All participants (100%) suggested age was a significant influence during the ERP implementation and described employing a cross training methodology to mitigate the influence of age. According to one participant, "The younger generation were able to pick it up a lot faster, while, the older generation was so use to the old system and found it harder to navigate through the system" (P003). Another participant indicated, "I would say the younger workforce were more eager to learn than the older workforce, they were obviously more tech savvy and understood the lingo quicker" (P006). Regarding the cross training one participant indicated, "Since we had the younger generation who were eager to the system, we developed a cross-training strategy where they helped the older users understand the technology piece and the older users in turn taught them the business side" (P007).

Theme 4: Dedicated Resources

The FC construct is defined as the level to which a person trusts that structural and practical resources exist to sustain system employment (Venkatesh et al., 2003). Facilitating conditions provide comprehensive data regarding the adjoining setting, including both technological and regulatory characteristics, which may improve or hinder individuals' innovation reception (Hsu, 2012). Compatibility mainly pertains to the compatibility of the innovation with prospective users' extant standards, requirements, and familiarity (Tan et al., 2014). Venkatesh et al. (2003) suggested the fundamental

construct of FC is operationalized to comprise technological and/or organizational environmental features that are aimed at removing usage obstacles. Dedicated resources is a required element of implementation success. Shachak et al. (2013) advocated that providing organizational sustenance was also vital to meeting end-users' needs. Participant P001 indicated several components must work collectively to provide the required means and funding necessary for the ERP implementation. Participants described a multi-tier strategy comprised of providing the necessary resources to support the usage of ERP systems to include appropriate hardware provided for the users, reliable helpdesk, and staffs or external consultant made available by the organization for the education needed by users. Participant P001 indicated several components must work collectively to provide the required means and funding necessary for the ERP implementation. Participant P003 indicated these facilitating conditions enforced users' belief that organizational assistance was there to facilitate the usage of the system. "Adequate resources" was the lone subtheme that emerged from this theme.

Adequate resources. According to Keong et al. (2012), suitable resources are necessary since ERP implementation comprises an intricate conversion from legacy systems and corporate procedures. Participants described a multi-tier strategy comprised of providing the necessary resources to support the usage of ERP systems to include appropriate hardware provided for user, reliable help desk, desk guides, and other tangible resources. Regarding the help desk participant P004 stated,

> "We had an […] help desk that users could call for assistance over the phone, however, if you still can't get it with somebody talking over the phone, you can have somebody physically come to your desk and sit with you."

Likewise, P008, stated, "What we did in our particular case was provide a help desk to provide answers and support as the system matured, this was in conjunction with continuous training and education opportunities for all end-users." One participant stated, "We also created desk guides with flowcharts depicting their role in the system based on crosswalks showing the relationship between their current processes and the old legacy processes" (P004). Another participant stated, "We also have a shared portal with a utility mailbox where folks can identify their problem through screen shots and we can deploy somebody right away to either call them or go personally to their workstation" (P003). Another participant stated, "Within our share portal the desk or how-to guides are hyperlinked for easy access so that our end-user can quickly reference how to do a particular task or function" (P006).

Additionally, extant gender variance studies suggested males are likely to be very task-oriented and, consequently, PE, which centers on job completion, tend to be particularly noticeable in males (Venkatesh et al., 2003). Contrastingly, higher levels of computer apprehension was observed in females, and their PE tended to be less than males; females also placed more emphasis on ease of use as a much more crucial element of BI than males (Venkatesh & Morris, 2000). Overall, 7 participants (88%) did not believe gender had a significant influence (88%) while 1 participant (12%) described developing gender-specific desk guides as a mitigation strategy. According to this

participant, “I found males predominantly wanted that just quick, give it to me, while the females wanted more details, so, you have to put information out there in two ways, two different type helpful guides to adapt to those individuals” (P001).

Wright, Sturdy, and Wylie (2012) defined consultant support as the apparent degree to which consultant support facilitated ERP implementation success. Extant literature has a plethora of evidence supporting the relationship between consultant supports and successful ERP implementation (Bano & Zowghi , 2015). For instance, Kwak et al. (2012) suggested that PU and PEOU had moderating influences on the positive connection among consultant supports and ERP implementation success, specially, consultant supports positively influenced both PU and PEOU. Likewise, Ghobakhloo, Hong, Sabouri, and Zulkifli (2012) identified familiarity transference from consultants to organizational end-users as an ERP implementation critical success factor. These extant research sanctions the argument that consultant supports can facilitate users’ ERP implementation reception. Participant P005 described the on-going support delivered by the vendor as critical, responsiveness, and reliability. Participant P005 stated, “The vendor had two ERP solutions team that are available 24/7 to answer any questions or even go down to the shop floor to provide one-on-one fixes if the need be.”

Theme 5: Governance

Governance emerged as the final major theme. ERP projects are a major investment that requires effective decision making, control, and oversight to ensure that the organization achieves what it expects. Two subthemes emerged from this theme including (a) standardization and metrics, and (b) oversight and motivation.

Standardization and metrics. Organizations implementing ERP systems must establish procedures, methods, and measures to successfully execute organizational objectives (Abu-Shanab et al., 2015). During the initial implementation stage, essential baseline metrics on existing procedures are acquired that aid in evaluating the implementation outcomes (Pérez-López & Alegre, 2012). Organizations repeatedly obscure ERP system inadequacies with organizational procedures or failures (Nwankpa & Roumani, 2014). However, common root causes comprise inadequate end-user training, poorly defined business processes, and inadequately outlined system duties and roles (Parameswaran et al., 2015). Participants described establishing quantifiable metrics and openly linking them to end-user performance and business impact. One participant stated, "The triage team actually reviewed all the training documents and decided which item should be trained" (P005). Another indicated, "We check metrics every week and every month to see if we're falling behind and whether end-users are using the system for its intended purpose" (P007).

Likewise, developing standard operating procedures was described as another key strategy. One participant noted, "We develop standardized business practices to eliminate workarounds that people were using, such as spreadsheets and other things" (P002). Another participant indicated, "We also developed standard operating procedures (SOP) where we incorporate those business decisions or those memorandums into the SOP" (P008). According to participant P004, "Usage was enforced by our local regulations and roles which modified their standards or their mission to include their evaluations."

Oversight and motivation. Ghazali, Ahmad, and Zakaria (2015) argued that management's consideration and approval are two major employee motivating dynamics. Monetary incentives are inclined to produce short-term interest, but acknowledgement and support establishes lasting commitment (Ghazali et al., 2015). Participants described developing an organizational change management plan that addressed the importance of developing a collaborative organizational culture, wherein managers inspire workers through providing opportunities to be included in special ventures and management roles. Additionally, executives should make their availability and willingness for personalized interactions clear to employees. Participant P008 stated, "We're going to continually look at the environment in which we operate to ensure that everybody is in fact utilizing all the functionalities of the ERP system, evaluators will go out and review all sites to ensure compliance." According to P004 stated, "Our ultimate goal would be to use usage reports to either recognize them for good behavior or take action for bad behavior." Likewise P005 stated, "When employees perceive that the system provides fair compensation and rewards for using the system, adoption and usage improves."

Summary of Findings

Five themes emerged, comprising (a) management endorsement, (b) change managements, (c) training and education, (d) dedicated resources, and (e) governance. Management endorsement identified sub-themes supporting open communication, and highlighting lessons learned as essential components of successful implementation. Change management identified sub-themes supporting gap analysis, and user engaged metric development as essential components of successful implementation. Training and

education identified sub-themes supporting tailored multi-method training, and user participation as essential components of successful implementation. Dedicated resources identified a sub-theme supporting adequate resources as essential components of successful implementation. Governance identified sub-themes supporting standardization and metrics, and oversight and motivation as essential components of successful implementation. I demonstrated conceptual and literature alignment through illuminating tangible paradigms offered by interviewees directly linked to UTAUT constructs and moderators. My emergent themes provided elements related to strategies public sector business managers used to successfully lead an ERP system implementation.

Applications to Professional Practice

This study is important because I explore strategies for successful ERP system implementation. Successful ERP implementations can positively influence nearly all organizational tasks (Ahmad & Cuenca, 2013). Thomas, Babb, and Spillan (2012) conferred the significance of user acceptance throughout the implementation progression and distinguished that numerous ERP systems failures were due to executives' underestimation of the importance of the implementation initiative. Kim, Cavusgil, and Cavusgil (2013) indicated IT alignment must focus on customers that recognize the value created by usage. Findings from this research may influence the elimination of key barriers central in the deployment and adoption of ERP systems by the public sector. The implications for social change of adopting ERP systems may provide better decision-making capability to public sector management on the values of ERP. Successful

implementations of ERP systems provide significant organizational benefits (Ram, Wu, & Tagg, 2014).

Organizational benefits comprise lowered expenditures, reduced inventories, enhanced productivity, enhanced operational effectiveness, achieving competitive advantage and enhancing the restructuring of central resources (May, Dhillon, & Caldeira, 2013). Study outcomes might aid in filling comprehension gaps related to user acceptance of ERP systems. With ERP systems, innovation and transformation are unavoidable. Consequently, leaders' comprehension is vital to ensure implementation success. Results of the study might influence business practice by enhancing organizational leaders' knowledge in promoting the complete integration of people and innovative technologies. Such changes might result in enhanced firm performance, knowledge distribution, and improved efficiency.

Implications for Social Change

Managers must consider tactical objectives when choosing ERP systems. Ignoring key dynamics could hamper successful implementation innovative systems. Deokar and Sarnikar (2014) indicated evoking positive social change requires mission, vision, and value statements related to the overall organizational stratagem. ERP implementation engrosses more than simply an innovative software package; it includes every organizational characteristic (Caya, Leger, Grebot, & Brunelle, 2014). Additionally, successful implementation describes converting the approach into aims conveyed to every employee (Chen et al., 2014). Managers are conscious they must employ innovative technologies such as ERP to enhance competitive advantage;

nevertheless, countless ERP systems fail (Ghobakhloo, Hong, Sabouri, & Zulkifli, 2012). Using the UTAUT model also provide significant findings related to acceptance and usage disparities between gender and age. Results of the study might influence social change by enhancing competitive advantage through improving user gratification, usage, and social and intellectual capital formation by recognizing strategies that mitigate employees' gender and age variances.

Recommendations for Action

The purpose of this qualitative single case study was to explore strategies public sector business managers use to successfully lead an ERP system implementation. Five themes emerged, comprising (a) management endorsement, (b) change managements, (c) training and education, (d) dedicated resources, and (e) governance. Additionally, outcomes generated five commendations, comprise employing strategies related to management endorsement, change management, training and education, dedicated resources, and governance.

Management endorsement highlighted a predominate theme in this study. Outcomes recognized open communication, and highlighting lessons learned as essential components of successful ERP implementation. Open communication between management and employees is important and should be two-way communications to make employees realize the usefulness of the ERP system (Hoch & Dulebohn, 2013). Likewise, learning from previous experiences and passing on the lessons gathered during the project's lifecycle on to future projects is mentioned as a critical factor to drive ERP success (Olszak & Ziemba, 2012). I recommend spotlighting management endorsement

pre-implementation through establishing open communication and highlighting lessons learned. Additionally, outcomes suggested management endorsement should be spotlighted through employing various communication instruments.

Change management is an essential factor of implementation success. Countless ERP implementation failures are due to insufficient emphasis on corporate procedures and change management (Maas et al., 2014). Ram et al. (2013) projected that 50% of ERP implementations were unsuccessful in achieving anticipated advantages because of organizations significantly undervaluing the degree of change management. Recognizing the necessity for change is very significant since executives and stakeholders are more inclined to endorse an ERP implementation due to a greater the necessity for change (Ahmad et al., 2013). Timely user participation is crucial in generating enterprise-wide interest in employing the system (Bansal, 2013). Recommendations include establishing a change management strategy early, to garner executive and employee buy-in.

Training and education is another essential factor of implementation success. Training provides a sound opening to assist end-users with adapting and developing positive outlooks towards the new system (Keong et al., 2012). Furthermore, they argued that training enables end-users to recognize and appreciate ERP system benefits (Keong et al., 2012). Additionally, the user's technological familiarity and the task and technology suitability can further contribute to PEU (Oliveira et al., 2014). Hence, training becomes a necessary to improve end-users' familiarity, proficiency and has a direct influence on their opinion regarding system efficacy. Recommendations include establishing a tailored training based on assessing organizational inclination and the

current stages of end-user's ability and familiarity. Outcomes suggested employing a myriad of training techniques which included practical exercises, lecturing, simulations, computer-based education, and on-the-job training. Additionally, employing hands-on training enhanced users' confidence during this study

Dedicated resources are directly related to the FC construct of the UTAUT model. The FC construct is defined as the level to which a person trusts that structural and practical resources exist to sustain system employment (Venkatesh et al., 2003). Facilitating conditions provide comprehensive data regarding the adjoining setting, including both technological and regulatory characteristics, which may improve or hinder individuals' innovation reception (Hsu, 2012). Compatibility mainly pertains to the compatibility of the innovation with prospective users' extant standards, requirements, and familiarity (Tan et al., 2014). Venkatesh et al. (2003) suggested the fundamental construct of FC is operationalized to comprise technological and/or organizational environmental features that are aimed at removing usage obstacles. Dedicated resources is a required element of implementation success. According to Keong et al. (2012), suitable resources are necessary since ERP implementation comprises an intricate conversion from legacy systems and corporate procedures. Recommendations comprise employing a multi-tier strategy comprised of providing the necessary resources to support the usage of ERP systems to include appropriate hardware provided for user, reliable help desk, desk guides, and other tangible resources.

Organizations implementing ERP systems must establish procedures, methods, and measures to successfully execute organizational objectives (Abu-Shanab et al.,

2015). Organizations repeatedly obscure ERP system inadequacies with organizational procedures or failures (Nwankpa & Roumani, 2014). However, common root causes comprise inadequate end-user training, poorly defined business processes, and inadequately outlined system duties and roles (Parameswaran et al., 2015).Consequently, my final recommendation comprise establishing governance through quantifiable metrics openly linked to end-user performance and business impact. I recommend developing standard operating procedures, and tying evaluations and awards to usage. Additionally, I recommend supporting change by conveying audit reporting outcomes through personal interviews, corporate gatherings and other organizational vehicles.

As managers seek to replace antiquated legacy systems, modernize business processes, and enhance supply chains, user acceptance research on recent ERP implementations is necessary. Business managers who are planning an ERP implementation should pay close attention to the outcomes of this study because it provides a benchmark for success. Outcomes of this study are significant to all organizational stakeholders involved in or planning an ERP implementation venture. Applying effective implementation strategies could let organizational managers employ tangible strategies to successfully lead an ERP implementation and sustain productivity. Additionally, outcomes of this study bridged gaps in ERP implementation by providing a UTAUT conceptual viewpoint within a qualitative lens. I plan to disseminate the findings of the study through scholarly journals and business journals. I will present the findings at small business workshops and conferences, and offer written materials to chambers of commerce, and business incubator programs.

Recommendations for Further Study

Outcomes from this study merit further exploration of strategies business managers use to successfully lead an ERP system implementation since organizations need implementation strategies to ensure success and sustain productivity (Ghapanchi & Aurum, 2011). Consequently, a valuable recommendation for additional research is to explore factors related to limitations identified in Section 1. First, I recommend enhancing the scope of the study by exploring strategies business managers use to successfully lead an ERP system implementation within diverse geographic localities, since my research only spotlighted public sector business managers in Southeast Alabama. Next, I recommend employing a larger sample to enhance generalization. Also, I recommend interviewing all employees within the organization to garner a broader viewpoint. Finally, I recommend longer interaction with participants to mitigate the unknown knowledge level of the targeted population influencing the findings.

Reflections

My doctoral journey at Walden University offered the prospect of learning from my research participants. I interviewed business managers who were directly involved in a successful ERP implement in a public sector organization in Southeast Alabama. Conducting this research has enhanced my comprehension. Several phases of the doctoral seemed very difficult, to include the IRB application process. However, I learned to appreciate the rigor involved in the doctoral process as a determinant of the level of final research submitted. Notwithstanding the challenges, this has been a very

rewarding journey and has broadened my understanding of businesses and the challenges they face when implementing technological innovations.

Despite these obstacles, my research provides valued data organizational managers, professional consultants, and prospective researchers. I had both familiarity and professional curiosity in the subject area, and I worked as a professional in the field of SCM for over 20 years with the experience of several ERP implementations. Additionally, I was familiar with the study location, having lived in the metropolitan area for over 4 years. However, no personal or professional relationships existed between the research participants and myself. Nevertheless, I consulted an outside source (Chair) to uncover and bring preconceptions and biases into cognizance. Additionally, I employed bracketing, reflexivity, and member checking as a way to alleviate preconceptions and interpret data through a subjective lens. My comprehension of public sector organizations was greatly improved by conducting this research.

Summary and Study Conclusions

Business executives experience the influence of ERP systems on a global scale (Zeng & Skibniewski, 2013). The development and use of technologies such as ERP systems are subject to social, cultural, organizational, technical, and other institutional pressures (Pishdad & Haider, 2013). Aligning IT and business strategies to exploit capabilities, and change the business has increased in importance as firms strive for competitive advantage in a diverse and changing marketplace (Revenaugh & Cook, 2013). Nevertheless, over 50% of ERP implementing firms ranked expected process and value enhancements as inadequate, whereas only 13% indicated implementations met

their needs (Bernroider, Wong, & Lai, 2014). The implication of the research, consequently, surpasses the public sector and extends to all ERP implementation within local and global communities in immeasurable ways.

I explored successfully leading an ERP system implementation in the public sector through the UTAUT lens. The UTAUT framework was appropriate for my research because the components helped frame my understanding of the business process. Key constructs underlying the theory are (a) performance expectancy, (b) effort expectancy, (c) social influence, and (d) facilitating conditions (Venkatesh et al., 2003). The initial three constructs are direct factors of acceptance and conduct, and the fourth construct is a direct cause of utilization behavior (Venkatesh et al., 2003). Additionally, UTAUT posits the role of four key moderator variables: gender, age, experience, and voluntariness of use (Venkatesh et al., 2003). The data collected were analyzed using NVivo 10.0. I demonstrated alignment with the conceptual framework and literature review through illuminating tangible paradigms offered by interviewees directly linked to UTAUT constructs and moderators. Five themes emerged, comprising (a) management endorsement, (b) change managements, (c) training and education, (d) dedicated resources, and (e) governance.

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Appendix A: Invitation to Participate

<Date>
<Address Block>

Dear Sir/Madam,

As part of my doctoral dissertation research at Walden University, I invite you to participate in a research study exploring explore strategies public sector business managers use to successfully lead an enterprise resource planning (ERP) system implementation. I contacted you to participate because you have direct knowledge and experience of successful ERP system implementation in public sector organizations within Southeast Alabama. Participation is voluntary, and will be confidential. Please read the enclosed consent form carefully and ask any questions that you may have before acting on this invitation to participate.

To achieve the objectives of this research study, your participation depends on satisfying the following criteria: Eligibility criteria for study participants comprise, (a) a public sector business manager within Southeast Alabama, and (b) knowledge and experience regarding the fundamental business practices related to ERP system implementation. If you satisfy these criteria and agree to participate, please notify me via the contact information provided below. I will contact you again for a personal interview. Total anticipated time required for each interview will be 30 to 60 minutes. Interviews will be audio recorded and transcribed. I will provide you an opportunity to conduct a member checking session where we meet a second time for 30 minutes to review and validate the completeness and accuracy of themes and study outcomes. Location will be coordinated prior to the interview to ensure privacy.

I sincerely appreciate your valuable time and thank you in advance for your cooperation.

Sincerely,

Lionel O. Wright, Sr.

Appendix B: Participant Consent Form

You are invited to take part in a research study I am conducting to explore business managers' perceptions and experiences related to successful Enterprise Resource Planning (ERP) system implementation in public sector organizations. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part.

This study is being conducted by a researcher named Lionel O. Wright, who is a doctoral student at Walden University.

Background Information:

The purpose of this study is to explore strategies public sector business managers use to successfully lead an ERP system implementation. You were invited to participate based upon the following eligibility criteria, (a) a public sector business manager within Southeast Alabama, and (b) knowledge and experience regarding the fundamental business practices related to ERP system implementation.

Procedures:

Should you agree to participate in this study, you will be asked to:

• Participate in one private face-to-face interview scheduled to last 60 to 90 minutes at either your work site or another location of your choosing. Location will be coordinated prior to the interview to ensure privacy during the interview.

• Consent to the interview being audio recorded for transcription by the researcher. The researcher will also take notes during the interview.

• Share organizational policies, procedures, internal memos, program proposals, organizational reports, and other outputs of the actions related to strategies to successfully lead an ERP system implementation.

• Meet a second time for 30 minutes to review and validate the completeness and accuracy of themes and study outcomes. This member checking session will be conducted at either your work site or another location of your choosing. Location will be coordinated prior to the interview to ensure privacy.

Here are the interview questions:

• What strategies were employed to encourage the belief that using the ERP system would enhance job performance (performance expectancy)?

• What activities were employed to enhance the ease associated with using the system (effort expectancy)?

• How was peer (friends, coworkers) or domestic influences (relatives) related to acceptance of the new technology (social influences) managed?

• What strategies were employed to ensure the existence of organizational and technical infrastructures (such as tech support) to support using the new system (facilitating condition)?

• How were end-users encouraged to consciously continue using the system?

• What were your strategies to enhance male versus female users' desire to consciously adopt the system?

• What strategies were employed to encourage older versus younger users' to consciously desire to adopt the system (age)?

• What strategies were your strategies employed with experienced versus inexperienced users' anxiety associated with using the system?

• What strategies were employed to mitigate users' anxiety associated with the mandated use of the system?

• Is there anything else you wish to add that I did not cover in the previous questions?

Voluntary Nature of the Study:

This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at your organization will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time.

Risks and Benefits of Being in the Study:

This type of study involves some risk of minor discomforts encountered in daily life, such as stress, uneasiness, becoming uncomfortable. Being in this study would not pose a risk to your safety or wellbeing.

Potential benefits of this study could be enhanced organizational knowledge in promoting the complete integration of people and innovative technologies, which may improve performance, knowledge distribution, and improved efficiency.

Payment:

There is no payment for participation in this study. At the end of the study, all participant organizations will receive a copy of the study as well as an offer by the researcher to discuss the outcomes of the study.

Privacy:

Any information you provide will be kept confidential. I will not use your personal information for any purposes outside of this research project. Assignment of a unique alpha-numeric identification known only to you and the researcher will know to ensure your privacy. Also, I will not include your name or anything else that could identify you in the study reports. Data will be kept secure by electronic means through an external hard drive containing copies of all documents and recordings, including signed consent forms. Data will be kept for at least 5 years in a locked safe as required by the university.

Contacts and Questions:

You may ask any questions you have now. Alternatively, if you have questions later, you may contact the researcher via 315-681-3173 or lionel.wright@waldenu.edu. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is 04-06-16-0374168, and it expires on April 5, 2017.

Please print or save this consent form for your records.

Statement of Consent:

I have read and understood the above information and the purpose of the study sufficiently to make an informed judgment regarding my participation. I agree to the terms designated above by replying to the email with the words '**I Consent**.'

Appendix C: Interview Protocol

What you will do	What you will say—script
Introduce the interview and set the stage	First, I want to thank you for agreeing to do this interview. Before we begin, I would like to confirm that you have read and signed the informed consent form, that you understand that your participation in this study is voluntary, that you may refuse to answer any questions, and that you may withdraw from the study at any time. As I previously mentioned this research surrounds the recent enterprise resource planning (ERP) implementation within your organization.
• Watch for non-verbal queues • Paraphrase as needed • Ask follow-up probing questions to get more indepth	1. What strategies were employed to encourage the belief that using the ERP system would enhance job performance?
	2. What activities were employed to enhance the ease associated with using the system?
	3. How was peer (friends, coworkers) or domestic influences (relatives) related to acceptance of the new technology managed?
	4. What strategies were employed to ensure the existence of organizational and technical infrastructures (such as tech support) to support using the new system?
	5. How were end-users encouraged to consciously continue using the system?
	6. What were your strategies to enhance male versus female users' desire to consciously adopt the system?
	7. What strategies were employed to encourage older versus younger users' to consciously desire to adopt the system?
	8. What strategies were your strategies employed with experienced versus inexperienced users' anxiety associated with using the system?
	9. What strategies were employed to mitigate anxiety associated with the mandated use of the system?
	10. Is there anything else you wish to add that I did not cover in the previous questions?
Wrap up interview thanking participant	I want to thank you for agreeing to do this interview. Again, your participation in this study is voluntary, that you may refuse to answer any questions, and that you may withdraw from the study at any time.
Schedule follow-up	I will contact you following interview transcription and data

member checking interview	analysis to schedule a member checking interview. During the member checking interview, you will be asked to review my analysis and interpretations to authenticate whether findings or uncovered themes appear accurate, reasonable, and credible.

Appendix D: Interview Reflexive Journal

Date of Entry:	
Event:	
Descriptive notes	Reflective notes
Date of Entry:	
Event:	
Descriptive notes	Reflective notes
Date of Entry:	
Event:	
Date of entry:	
Event:	

Appendix E: Letter of Cooperation From a Research Partner

[redacted]

March 3, 2016

Dear Lionel O. Wright,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "User Adoption of Enterprise Resource Planning Systems in the Public Sector" within the Resource Management Directorate. As part of this study, I authorize you to interview company employees and review company documents. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: allowing employees to engage in a voluntary interview. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,

[redacted]