EFFECTS OF MISMANAGED CONDENSED PROJECT LIFE CYCLES IN THE U.S. CONSUMER READY MEAT INDUSTRY

by

John E. Johnson

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Liberty University

December 2017

Abstract

Projects have been undertaken by the United States (U.S.) consumer ready meat industry to advance strategic objectives and provide consumers with desired food products. The management of the projects' industry life cycles was impacted by diverse consumer groups' continual demands for new and varied products. The problem addressed was the inefficient management of projects' costs, scopes, and deliverables because of the shortened projects' life cycles for consumer ready processing lines in the U.S. meat industry. The purpose of this study was to explore the effects inefficient management of condensed project life cycles had on stakeholders and deliverables. This study used in-depth interviews of participants involved with a variety of projects in the industry. The goal of this study was to explore the impact shortening the project life cycle had on the individuals and results of the project. This study provided a deeper understanding of the emotional effects on project stakeholders when the project life cycle process was compromised. A better understanding of causes-and-effects, as described by the participants, was applied to the Actor- Network-Theory. The resulting insights provided those involved with projects in this industry with an increased cognizance of activities that impact various aspects of a project. Following the processes of project management and the project life cycle were illustrated through biblical examples. Deviation from original project scopes have been shown to increase waste and jeopardize the desired results of projects.

Keywords: Actor-Network-Theory, cause-and-effect, project life cycle, project management

Dedication

To my family: you taught me to seek knowledge and to better myself. My Christian upbringing provided a solid foundation that kept me grounded and focused throughout my journey. Above all, I thank Jesus Christ, who gave me the strength to balance life throughout this endeavor.

Acknowledgments

There have been many individuals who have helped me throughout my business and educational journeys. For this last journey, I thank the following: Dr. Gayle Jesse, my committee chair, who provided guidance and encouragement when I needed that support; Dr. David Duby, who provided insight into project management that helped me understand more of this vast subject; Dr. Gene Sullivan, who has truly shared patience, understanding, and knowledge sharing with me, as well as with others in this program; all the colleagues in our cohort for providing encouragement and support throughout our three years together; and finally the staff and faculty of the Liberty University School of Business for their exemplary professionalism and superior teaching skills.

Additionally, there have been a number of colleagues and leaders in the business sector who have supported my efforts. There are too many to name, but those with whom I have worked, you fully know who you are. Lastly, I thank the vast amount of people in the food industry, and specifically the meat processing industry, who work to provide nourishment for billions of people throughout the world. I hope this study will benefit workers, organizations, and the industry as a whole.

Table of Contents

List of Tables

List of Figures

Section 1: Foundation of the Study

Numerous projects have been utilized by the United States (U.S.) consumer ready meat industry to create products that attempted to meet the desires of consumers. In this highly competitive market, organizations were challenged to deliver products quicker and more cost effectively to consumers. Condensing the project life cycle has been a problem faced by meat processing organizations. This study explored the inefficient management of projects' costs, scope, and deliverables due to shortening of projects' life cycle for consumer-ready processing lines in the U.S. meat industry

Background of the Problem

Ongoing projects undertaken by meat processing companies have been active attempts to satiate the increased demands of consumers. Projects have varied by complexity, time, capital investment, and consumer acceptance. Acceptance of projects is unique as applications are modified, created, and implemented based on multiple demands such as: consumer trends, internal metrics, or environmental pressures. The food industry has neither been studied nor has it embraced continuous development of new processes and products (Bigliardi & Galati, 2013).

Project management body of knowledge (PMBOK) has continually expanded and evolved (Project Management Institute, 2013). Changes to classical project management approaches are necessary due to the inefficient and ineffective management of various projects (Rebaiaia & Vieira, 2014). Project management research studies, models, and theories focus on industries such as: construction, transportation, manufacturing, and information technology (IT). One industry that was scarcely researched within the scope of project management was consumer-ready meat processing, where continually changing consumer desires have contributed

to the shortened life cycle of projects. Science and technology have been the focus of research in the meat industry (Troy & Kerry, 2010). Although science and technology have been researched, limited literature has been generated on project management in the meat industry.

Continual changes to projects and processes have been dictated by the aggregate of consumers' changing desires for retail food items. Situational project management can be applied to the specific conditions and circumstances where a project needs to be continually modified by management (Lippe & vom Brocke, 2016). These changes to project deliverables have challenged project managers to continually modify the project life cycle. Food manufacturers respond to a changing environment by focusing on the customer to align supply chain efficiency and the interplay between unstructured and structured decision making (O'Reilly, Kumar, & Adam, 2015). These decisions have led to project anomalies and contributed to issues, such as: food safety, sustainability, and missed key performance indicators as production and consumption of animal proteins consume large areas of arable land, water, labor, and non-recyclable raw materials (de Bakker & Dagevos, 2012).

Various approaches to modify project management have not addressed the rapidly changing project deliverables associated with production line designs for consumer-ready meat processing. Deliverables, which should be examined with frequency of changes, included: market, stakeholders, and business context (Conforto, Amaral, da Silva, Di Felippo, & Kamikawachi, 2016). The shortened projects' life cycles compressed resources, increased risks, created frequent changes in deliverables, and expanded the network of participants. Increased risks were addressed differently depending on the organizational structure (Project Management Institute, 2013). The organizational structure of meat processing companies was primarily either

functional or a weak matrix format. A functional organization is more difficult for project managers to influence a project (Project Management Institute, 2013).

Various industries have been well researched and documented related to project management and projects. Project management is used in manufacturing, marketing, and product development (Porananond & Thawesaengskulthai, 2014). Some researched industries included: engineering, construction, petrochemicals, and information technology (Steyn, Jordaan, & Pretorius, 2012). Project management has also been applied in almost every big construction project (Lee & Liang, 2014). In addition, software development companies also frequently utilize project management tools (Marinho, Sampaio, Lima, & Moura, 2014). As an opaque industry, food manufacturing, specifically consumer-ready meat processing, has operated with little focus regarding manufacturing and project implementation as consumers have also demanded mental insulation from the visceral aspects required for this type of manufacturing (Leroy & Degreef, 2015).

Problem Statement

The problem to be addressed is the inefficient management of projects' costs, scope, and deliverables due to the shortening of projects' life cycles for consumer ready processing lines in the U.S. meat industry. Increased demand and complexity of products has shortened the life cycle of manufacturing systems (Mourtzis, 2016). Consumer demands for new, innovative, and environmentally-friendly products, have contributed to shortened project life cycles.

Consumer demands have continually changed with increased complexity and heterogeneity, forcing manufacturers to produce a multitude of unique product offerings (Gracia, 2014). Consumer ready products have been demanded by an increased number of niche market segments. These niche markets have emerged globally, and food manufacturing companies have implemented projects to meet those markets. Customers' needs have been dynamic and design of production lines should allow variation to meet the needs of changing market segments (Jiang, Kwong, Liu, & Ip, 2015). If the timeframe for a project life cycle is rejected by the customer, project managers need to reduce the primary target time for completion (Mohammadipour & Sadjadi, 2016).

A limited number of existing studies address project management for food manufacturing projects, specifically consumer ready meat processing projects, although studies and market reports reflected a continued increase in consumer ready foods (Stratakos & Koidis, 2015). Revisiting a project can be time consuming and costly for development and lost customers due to delays. The focus of this study was the factors effecting management of consumer ready meat processing projects and the shortening of those projects' life cycles.

Purpose Statement

The purpose of this qualitative study was to explore the effects inefficient management of condensed project life cycles had on U.S. consumer ready meat processing projects. The focuses of this research are: organizational structure, stakeholders, and deliverables. Exploring effects of mismanaged condensed project life cycles provided insight to apply various tools of project management. Organizational cultures and storytelling of projects were important to present situations and clues to future sources of problems (Farzaneh & Shamizanjani, 2014). The U.S. meat industry is comprised of highly concentrated production, which have contributed to internal, external, and social issues for organizations. Corporate expansion of meat industry companies has instigated internal strife (Belk, Woerner, Delmore, Tatum, Yang, & Sofos, 2014). Internal issues have contributed to effects on project management and the need to understand the dynamics involved with these issues. External factors have affected the project life cycle, stakeholders, and the measurable results.

Nature of the Study

Method

Qualitative. This qualitative research method utilized myriad case studies that have occurred in U.S. meat processing companies. It was the intent of the researcher to understand the actions of individuals involved within each case. Qualitative methods are useful to describe the emotional aspects connected to the project managers (Araújo & Pedron, 2015). Qualitative techniques allowed identification and the creation of meaning discovered using data within and among individuals in specific environments (Hermanowicz, 2013). Explorative research for analyzing shortened product life cycles was conducive to a case study approach (van Iwaarden & van der Wiele, 2012). One study utilized a qualitative case study methodology to identify factors of specific ideal levels of project management (Albrecht & Spang, 2014).

This approach attended to the ongoing concern that more research was needed to address Agile process methodologies and the impact on performance measures (Gemünden, 2015). Performance measures were considered related to stakeholders and the various organizational cultures. The downside of studying the qualitative impacts of an Agile hybrid model is that metrics miss important gauges of performance (Cooper & Sommer, 2016). The potential to overlook or miss key metrics was considered when exploring the use of quantitative methods.

Quantitative. Quantitative research measures events, people, or objects as categorical or metric measurement (Blaikie, 2003). To better determine impact on performance measures, a quantitative study was considered, but it would not have provided information to indicate the influence of organizational culture, stakeholders, or relationships. Quantitative results would not

have yielded data about the emotional condition of the participants. An organization's environment and enablers may influence the adoption and implementation of Agile project management to address the project cycle (Conforto, Salu, Amaral, da Silva, & de Almeida, 2014). Quantitative research methods were not selected as an appropriate methodology for this study because quantitative methods focus on categorizing the measurement of results. This research study was an exploration to better understand individuals and activities within the life of a project. Thus, a quantitative approach would have neither exposed participants' connections to project decisions, nor would have explored the dynamics of interactions with others. Therefore, quantitative methods were not chosen for this study.

Mixed Methods. The overlap of quantitative and qualitative research methodologies led to the consideration of a mixed methods approach. Mixed methods are rare in project management, as researchers typically fail to explicitly identify the type of research (Cameron, Sankaran, & Scales, 2015). Although mixed methods are used for triangulation, complementarity, development, initiation, and expansion, research papers in project management do not explicitly acknowledge mixed methods use (Cameron, Sankaran, & Scales, 2015). This research focused on the rich descriptions provided by the participants generated during the interview instrument. Ancillary data captured from other sources was not used for mixing qualitative and quantitative methods. The design of a mixed methods approach has relied on interdependency of qualitative and quantitative components (Schoonenboom & Johnson, 2017).

It was important to utilize an appropriate research methodology for the research problem and questions (Bentahar & Cameron, 2015). For multi-case studies, researchers needed to adopt the best method to capture the complexity of each case (Fletcher, MacPhee, & Dickson, 2015).

Although the cases evaluated in this study were complex, the resulting project and associated participant could not support the application of a mixed methods approach. Mixing quantitative and qualitative evidence was a way for case study research to move beyond qualitative research (Yin, 2014). Mixing qualitative and quantitative methods would not have added depth to the participants' narratives of their experiences. Some researchers might argue that quantification is at odds with lived experiences described through qualitative methods (McKeown & Thomas, 2013).

Mixed methods can be used to evaluate certain complex projects (Thamhain, 2014). Capturing data from individuals through interviews served as the primary research method to explore the nuances of each project and collection of data. Mixed methods combines different tools and methods to integrate qualitative and quantitative research techniques (Yin, 2014). The intent of the qualitative research method was to empower individuals to share their stories (Creswell, 2013). The introduction of mixed methods would have diminished the narrative of the participants' experiences by introducing quantitative data to the case studies. The researcher noted that quantitative data was used for triangulation purposes, but was not intended to expound on different aspects of each case.

Design

Case Study. For this research, case study design was used. Case studies allowed the researcher to determine what and, perhaps more importantly, why various events occurred (Naumes & Naumes, 2012). It was determined that a collective case study would provide an opportunity to illustrate the issues (Creswell, 2013). Meat processing projects were unique, yet bound by certain mechanical, biological, and regulatory constraints.

Utilizing the collective case study approach provided data that was then compared across environments, companies, and projects. A collective case study approach was used to analyze and interpret the multiple realities of what happened to the people in each case, and great care was taken to minimize disturbance or influence by the observer (Stake, 1993). Case study information attributed improvements in project successes to the involvement of the project sponsor (Kloppenborg, Tesch, & Manolis, 2014).

A case study approach was useful to further answer the descriptive and explanatory questions that would arise from exploring an issue (Yin, 2012). This research explored additional descriptions of ways shortening the project life cycle in projects directly related to consumer ready meat products. Answering the *what* and *how* of the posed questions reflected an appropriate application of the case study method for this research in project management and the meat industry. Case studies provided an opportunity for collecting data and understanding changes and adaptations in project management (Könnölä, Suomi, Mäkilä, Jokela, Rantala, & Lehtonen, 2016). Additionally, using a multi-case study was useful because some research demonstrated one inherent limit of research in one organization, while future research would likely pursue multiple case studies (Aubrey, Sicotte, Drouin, Vido-Delerue, & Besner, 2012). This research study analyzed multiple cases from different organizations and manufacturing facilities.

Exploring specific case studies in various food manufacturing facilities and organizations allowed for the adaption of data collection and the application of key theories, since coding exposed certain patterns of behavior. Coding in qualitative data analysis is heuristic and represents a datum's pattern, classification, and linkage (Saldaña, 2016). Coding was critical

because multiple projects, individuals, and sites were studied. Interviews and reviews of the researcher's notes reflected common incidents and references by the interviewees. Open coding was used to identify concepts from the case studies and further categorized dimensions from the data (Lawrence & Tar, 2013). Previous research had focused on past case studies related to narrative and causal effects.

Narrative. The narrative design was considered as a means to convey the experiences of individuals involved in each project. Narrative research centered the focus on exploring an individual and his/her related experiences (Creswell, 2013). The researcher in narrative inquiry became part of the research as a relationship and understanding emerged (Clandinin, 2006). It was not the intent of the researcher to become part of the research; rather, the goal was to assume a more objective role. Narrative researchers needed to pay attention to the temporal, the personal, the social, and the place (Clandinin, 2006). A narrative required an original state of events, an action, and the resulting consequence state of events (Czarniawska-Joerges, 1998).

Phenomenology. The U.S. meat industry and supporting industries reflected a diverse assembly of individuals with unique perspectives based on multiple factors and influences. Phenomenology was not considered as a research method for several reasons. According to Creswell (2013), one phenomenological approach studied several individuals who were exposed to one event and then endeavored to understand the shared experience. Multiple cases were studied from various companies, but not one specific event. If one event were to be studied, such as research to observe a phenomenon from employees' own experiences, then phenomenology could have been utilized (Khan, 2014).

Grounded Theory. Grounded theory emerged through the analysis of data collected and analyzed, and resulted in grounded theory (Robert, 2016). Grounded theory methods were valuable to evaluating the interview transcripts, notes, journals, and documents collected from the research (LaRossa, 2005). Grounded theory and an inductive approach were utilized to provide a textual representation of the data with an advantage of fitting one data set to the resulting theory (Dillon & Taylor, 2015). Since grounded theory is an inductive method, a theory could have been developed based on the data collected through this research (Green, 2014). It was not the intent to develop a theory based on results from multiple events studied.

Ethnography. Ethnography focused on the shared culture of individuals exposed to the same event (Creswell, 2013). This research was not undertaken to explore the cultural or shared cultural context to the issue of shortened project life cycles. One could argue those engaged in the meat industry share a certain culture. But, for this research, various companies, projects, individuals, and regions of the United States were examined.

Research Questions

RQ_1: What waste was incurred in a project due to mismanagement of the project life cycle?

RQ_2: What impact could expert judgment have on management decisions in the project life cycle?

RQ_3: Can a project's shortened life cycle have provided benefits?

RQ_4: How does the interpersonal skills of a project manager affect the management of a project life cycle?

RQ_5: How were project deliverables impacted by a shortened project life cycle?

Conceptual Framework

Consumer ready meat processing projects typically incurred changes during the project life cycle. All projects were subjected to change and risk (Project Management Institute, 2013). These changes were described in literature as unforeseen, variable, and multiplicative. One change, with associated risks to projects in the meat industry, was the shortening of the project life cycle. It was the intent of this research to explore the effects of change agents on the condensed project life cycle and the subsequent actions taken by stakeholders and project managers.

Actor-Network-Theory

Actor-Network-Theory (ANT) has been widely applied to complex systems, such as food chains, where strong interdependence exists (Ruiz-Martin & Poza, 2015). If positive modality eventually overwhelms negativity, the wider web of allies engaged, disseminated, consolidated and supported the network, which resulted in a relatively stable structure. (Rutherford, 2016). A network theory can assist a project manager to analyze and evaluate risks and interactions in a project (Lmoussaoui & Jamouli, 2016). Using a network approach can identify the cause-and-effect relationships and key challenges based on analysis results (Mok, Shen, Yang, & Li, 2017). For this research, ANT provided a grounded structure for application to explore the mismanagement of shortened life cycle of projects in consumer ready meat processing organizations and equipment supplier organizations.

Cause-and-Effect

Cause-and-effect has been examined by various theories in an effort to explain risks. A consequence of risk was the direct impact on time, scope, and cost (Fang, Marle, Zio, &

Bocquet, 2012). One study used Actor-Network-Theory (ANT) to determine factors influencing project delays (Ahmedshareef, Hughes, & Petridis, 2014). The conceptual framework of effects condensing project life cycles had on project deliverables is illustrated in Figure 1.

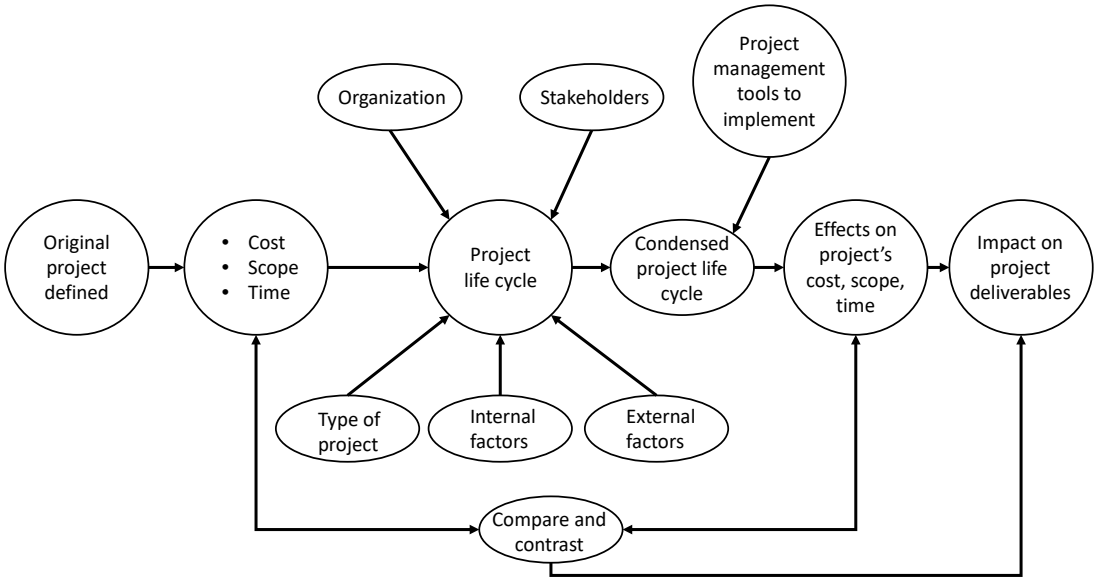

Figure 1: Conceptual framework of effects of condensed project life cycle

Cause-and-effect utilized root cause analysis to identify causal relationships, which lead to project failures (Lehtinen, Mäntylä, Vanhanen, Itkonen, & Lassenius, 2014). This analysis tool evaluated a problem from an overall or holistic view (Garg & Garg, 2013). One study showed project failure to be caused by project management methodologies (Al-Ahmad, Al-Fagih, Khanfar, Alsamara, Abuleil, & Abu-Salem, 2009).

Definition of Terms

Condensed project life cycle: Product life cycles are reduced in time from the start to the close of the project (van Iwaarden & van der Wiele, 2012).

Consumer ready meat product: These food items have been processed and ready for consumption with little to no further preparation required by the consumer (Brennan, Derbyshire, Tiwari, & Brennan, 2013).

Deliverables: These elements are specific expectations of those involved with a project. Deliverables often vary by the individual, but typically include outcomes that are measurable and specific (Errihani, Elfezazi, & Benhida, 2015).

Key Performance Indicators: These measurements provide useful date to determine results and ensure project implementation (Strelnik, Usanova, & Khairullin, 2015).

Project: A project has established objectives, defined life span, engagement of different departments, introduction of new tasking, and specific time, cost, and performance requirements (Larson & Gray, 2014).

Project life cycle: There are five stages of a project: define, plan, execute, control, and close (Larson & Gray, 2014).

Project management: In order to complete a project, it needs to be managed through the use of applied knowledge, tools, and techniques (Rui Manuel da, 2013).

Metrics: These benchmarking indicators are identified by project stakeholders to measure the performance and finished product or outcome of a project (Yun, Choi, de Oliveira, & Mulva, 2016).

Organizational culture: The established expectations and behaviors used to guide individuals in a company that reflect the overall beliefs and values needed to build a communal purpose and vision (Sergiu, 2015).

Processing line: The equipment and people required to convert and modify raw materials (meat) through processing methods, that include: curing, dehydration, blending, fermentation, or cooking into finished consumer ready goods in a packaged form (Simonin, Duranton, & de Lamballerie, 2012).

Stakeholders: These individuals or entities have a vested interest in the outcome of a project and can be connected emotionally and financially (Nangoli, Namagembe, Ntayi, & Ngoma, 2012).

Assumptions, Limitations, and Delimitations

Assumptions

The first assumption is that each interviewee was truthful and presented his/her views of the project honestly. Risk of this assumption could be mitigated with a carefully constructed interview that provided assurances to participants that identities were concealed for confidentiality. Additionally, each participant had the option to withdraw from the interview at any time. Finally, the participant was provided with an advance copy of the questions prior to the interview.

The second assumption was that analyzed case studies represented projects in the U.S. consumer ready meat processing industry. Collectively, the industry and study participants have shared information on food safety and employee safety to insure the protection of both workers and consumers. The researcher addressed this assumption by securing a consensus from meat industry colleagues that defined the projects as representative of U.S. consumer ready meat processing organizations.

The third assumption was that the researcher would be granted permission from competing companies to conduct the necessary interviews and case study exploration. The researcher had previously worked in the food industry for 29 years and had established a network of colleagues in many meat processing companies. To address this assumption, the researcher carefully presented the benefits of participating in the study to the various competing companies.

The fourth assumption was that projects continued to be implemented in the consumer ready meat processing industry. Historically, the meat industry had evolved to address demands of stakeholders and customers through the use of projects. To address the assumption that

projects would continue, the companies' annual reports and projected annual capital spending reports were examined to determine projected outlay of capital for these ongoing projects.

Limitations

One weakness of this study was the limited amount of preexisting literature on project management in the meat industry. Another weakness was the challenge to identify specific companies who were willing to share information on projects built on proprietary information. Case studies were explored, and some companies would not permit their information to be published. Some companies had certain projects that did not represent the overall consideration of the condensed project life cycle. Additional limitations included the expertise and level of training project managers possessed. Anecdotally, most meat processing companies did not have a formalized project management structure in place or had not developed organizational processes through trial and error over time.

Delimitations

The first delimitation was the mismanagement of the condensed project life cycle as the selected problem. Multiple, and sometimes overlapping problems, were identified with projects and the PMBOK, but the mismanagement of issues that resulted from the condensed project life cycle was ultimately chosen. A second delimitation was the choice to focus on the food industry, specifically the U.S. meat industry, and further narrowed to the consumer ready segment of that industry. Focusing on retail products created greater opportunity for readers to connect with recognizable products, and readers were more engaged in reading the resulting research.

Interviewees were selected based on their involvement with each project selected. Participants were limited to those who had an active role in the development, design, implementation, and operation of the selected project. The rationale for this boundary was to gauge the interaction and effect of the identified influencers on the respective projects. Projects were selected based on the experience and involvement of the researcher with those projects. Projects ranged from those with relatively small capital ($60K) to larger capital projects ($14M). The longevity and budgets were not delimiting factors for selection of the project.

Qualitative method and case study approaches were selected to explore each project. While limiting the methodology to a qualitative research design, the researcher did utilize key performance metrics and other documents for triangulation purposes. Depending on the research questions, it was necessary to determine what results were produced by the mismanagement of the project life cycle. Potential results included increases in cost, time, and deliverables.

Research questions were developed that focused on the results of mismanagement of projects. The number of research questions was limited to five. Another delimitation was the organizations selected by the researcher. Each meat processing organization was a former employer of the researcher. Intimate knowledge of the selected projects was previously known by the researcher, either by direct involvement or active knowledge of the participants.

Significance of the Study

Reduction of Gaps

Existing literature had been limited regarding project management in the food industry, meat processing, and consumer packaged goods arena. The packaged food industry has continually expanded with longer supply chains and increasingly complicated projects (Shnayder, van Rijnsoever, & Hekkert, 2016). Although the food industry has expanded, research of project management has been limited globally and remains meager for the U.S. meat processing industry. One study focused on industry comparisons among healthcare, construction, and military agencies, as well as the National Aeronautics and Space Administration (NASA) (Allen, Carpenter, Hutchins, & Jones, 2015).

Limited research has positioned the food industry and meat processing at a disadvantage. Shortened project life cycles have compromised the industry because projects need to adapt to various environmental factors. For instance, food and beverage firms need to be capable of fast adaptation to the changing business environment (Tepic, Fortuin, Kemp, & Omta, 2014). Finally, some existing theories of change management have fallen short of planning, implementing, and managing change (Parker, Charlton, Ribeiro, & Pathak, 2013). By focusing on the shortened life cycle, this study provided insight to factors that impact the project life cycle and the industry as a whole.

Implications for Biblical Integration

The Bible is a blueprint for humans to obey God's commands, to live, and to grow in His kingdom. If laws and guidelines are not followed, then plans go awry and turmoil ensues. Similar to project management, life plans need to follow an orderly process. In the case of any

project life cycle, it is important to plan for contingencies. The five stages of the project life cycle are: initiate, plan, execute, monitor and control, and close; and, these stages can be applied to other management processes (Luo & Han, 2013). God's process for man is and was perfect until man's interpretation changed the life cycle. When project life cycles are shortened, the results effect different aspects of the project and conflict with Scripture in that everything should be done in an orderly way (1 Corinthians 14:40, NIV).

Initiate. God's original plan created man in His image and with His knowledge. It was not until man shortened the life cycle by wanting to be equal and self-aware that the process was changed. Man may make plans, but the Lord's purpose will prevail (Proverbs 19:21, NIV). Van Duzer (2010) presented this concept as the Genesis Model and described how man went through four stages of a life cycle: creation, fall, redemption, and consummation. Many plans have been identified throughout the Bible and describe what effect planning has on the outcomes.

Plan. The project life cycle requires planning as if one wants to build a tower. First, you would estimate the cost to see if you have the money required to complete the tower (Luke 14:28, NIV). Plans are made to estimate the cost of the work. Man may plan their courses, but ultimately the Lord will provide the appropriate steps for a project to be completed (Proverbs 16:9, NIV). When the project life cycle is shortened, the original plans need to be modified and adapt to the changes. If the changes are not wisely planned, the execution stage will be affected.

Execute. Noah executed the building of the ark and did not compress the project life cycle because God had instructed him on how it was to be built (Genesis 6:15, NIV). Plans need to be executed precisely or the results will not match the original plans. Joshua executed God's plan when he was commanded to march around the Wall of Jericho for seven days and to sound

the trumpets on the last day (Joshua 6:3-5, NIV). Execution of a project also requires controlling the process.

Monitor & Control. Many challenges can occur during a project and life, but none are more difficult than controlling one's self. Humans are told to make every effort to take knowledge and to make every effort to add to self-control (2 Peter 1:5-6, NIV). When project life cycles become compressed, the project manager needs to maintain control of the situation. One should rely on the facts and do nothing rash (Acts 19:36, NIV).

Close. Closing is often overlooked in a project life cycle, but it is necessary to provide valuable feedback. When Nehemiah finished rebuilding the wall around Jerusalem, he dedicated the project (Nehemiah 12:27, NIV). When the life cycle is compressed, there may be a desire to skip the closing step or not fully close the project with the required and necessary learning processes. In life, one needs to finish work in much the same way Paul wrote to finish the race and complete the task given to him (Acts 20:24, NIV).

Relationship to Field of Study

Projects create value through improved processes, development of new products and services, and can facilitate responses to enterprise environmental factors (Project Management Institute, 2013). The food industry has utilized projects in an effort to address the needs of consumers and multiple stakeholders. Management of these projects is critical to insuring global food supplies, enterprise environmental factors, and sustainability of resources are maximized while waste is minimized.

This study was important to the cognate of project management as it addressed a current problem in the field of project management and the food processing industry. Multiple factors

have influenced the shortening of project life cycles and the outcome of projects. Valuable resources were compromised due to the mismanagement of a project with increased waste, costs, and missed opportunities. When plans changed, earlier planning efforts were often wasted and became non-value-added work (Sarmad, 2012). Understanding variables that effected the project life cycle have been shown to provide the project manager with valuable tools that can address the shortened project life cycle. Tools and techniques applied to project management process groups and knowledge areas have been shown to improve the success level of projects (Project Management Institute, 2013).

Understanding the management of projects through the experiences of participants involved in meat processing projects provided valuable insight to and application of the five processes and ten knowledge areas of project management. Project management integrated knowledge areas and process groups to produce specific outcomes in an iterative manner (Project Management Institute, 2013). Global meat industries are focused on process innovation and were challenged by knowledge gaps in production (Ramachandraiah, Han, & Chin, 2015). These knowledge gaps were identified and explored more thoughtfully through the experiences of project participants.

Project knowledge areas and application of the 47 project management processes could have led to improved meat production projects and advanced sustainability. Companies in the food industry have grown more aware of processes, technological advancements, and scientific knowledge to increase innovative projects (Arcese, Flammini, Lucchetti, & Martucci, 2015). Data from this study contributed to companies' organizational process assets (OPAs). The study insights, coupled with historical information, added value to companies' guiding OPAs (Project

Management Institute, 2013). Understanding and applying project management effectively in food and meat projects led to improved strategies that addressed sustainability issues. Increased worldwide competition in the agri-food sector required a more strategic focus on sustainability (Barth, Ulvenblad, & Ulvenblad, 2017).

A Review of the Professional and Academic Literature

Qualitative and quantitative research on project management contributed to the project management body of knowledge (PMBOK). This research focused on certain industries that have implemented project management for a number of years. Increasingly, project management has contributed to strategic and organizational tactics (de Guimarães, Severo, & Vieira, 2017).

Condensed time constraints exacted on an activity in any stage of a project introduced risk and lead to problems that included, but are not limited to: quality, time, and costs (Mohammadipour & Sadjadi, 2016). Mismanagement of the condensed project life cycle can harm the project's quality, time, and costs. Increasingly, more industries have been using project-based management to effectively implement projects (Mas, Mesquida, Jovanovic, & Barcelo, 2016).

Some industries, such as information technology (IT), construction, software development, and aerospace, have been well versed in formal project management. Construction and information technology were the most studied industries using project management (da Silva Eiras, Tomomitsu, Linhares, & de Carvalho, 2017). One industry with limited experience in formal project management was the food industry, specifically meat processing.

The professional and academic literature generated about the food industry exposed an absence of general information or formalized research on project management and project life cycles. Therefore, the literature review was culled from a broad scope of projects and then narrowed to better focus on factors influencing the compression of project life cycles and effects on U.S. meat processing organizations. Although limited research existed on projects in the food industry and meat processing, certain commonalities existed with projects. Time was one

common thread between project life cycle and project success (Eduardo & de Freitas Chagas, 2014).

A funneling model shared in Figure 2 depicted a graphical representation of broader project concepts narrowing to influences and effects of shortened project life cycle. First, the definition of a project needed to be framed, followed by the examination of structured and unstructured project management. Once the base function of projects had been established, it was necessary to define the project life cycle.

The next major category explored the application of project management within several industries. The establishment of project management and the specific issues that emerged from condensed project life cycles in these industries was examined. Although limited by existing research, the food industry was evaluated related to its application of project management and the effects of shortened project life cycles on projects, organizations, and deliverables.

Factors related to the cause and myriad effects of shortened project life cycles were influenced by internal, external, and stakeholders' interests. These factors were further segmented by unique aspects of individual projects, organizations, and industries. Determination of the success or failure of a project with a shortened life cycle was reflected by key performance indicators (KPIs) identified by the organizations, project manager, and stakeholders.

Project success was examined next to offer input on views of success and failure. Drivers of success were multifactorial, subjective, and objective. Clear objectives were developed to determine the outcome of a project and were measured in terms of time, cost, and quality (Chou, Irawan, & Pham, 2013). Goals or performance indicators were established to evaluate the project, which provided metrics for project evaluation. Further exploration of the

subjective and objective results contributed to more insight on factors that influenced the shortened project life cycle.

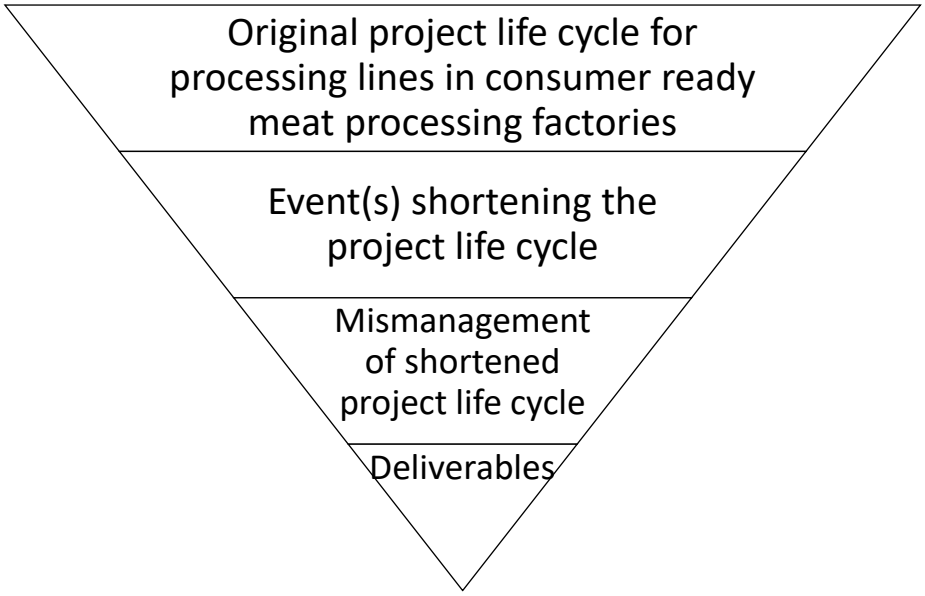

Figure 2. Funnel model. Narrowing focus from a broad view of projects to deliverables effected by mismanaged shortened project life cycles.

Review of Related Research and Literature to the Problem

Projects in the meat industry have been initiated to address the needs of customers. One study showed customer requirement change or life style change as a risk factor associated with new product development for ready meal production (Porananond & Thawesaengskulthai, 2014). Projects were engaged to meet demands and were incorporated in a broader strategic planning process (Papke-Shields & Boyer-Wright, 2017). An increased demand existed for using projects to meet business change and implement corporate strategies had been noted (Heaton, Skok, & Kovela, 2016).

The use of projects had been a process through which new products were created for consumers. Projects undertaken for the development of new food products or enhanced features was inherently risky (Ryynänen & Hakatie, 2014). Project management was used to develop new products and deliver projects on time, budget, and within scope (Rezania, Baker, & Burga, 2016). It was necessary for projects and life cycles to be defined prior to exploring factors effecting shortened project life cycles.

Projects

Limited existing research on projects in the U.S. meat industry presented challenges to understand influences on project life cycles. Although various industries have presented unique environments, projects encompass common attributes that have been correlated to any industry. The Holy Grail of projects had been the iron triangle of scope, cost, and time (Liebowitz, 2015). Projects have been defined to be unique in nature and present some type of risk (Allen, 2015). While the U.S. consumer ready meat industry had few studies published on projects, other industries provided ample research work.

The research focus had previously been placed on industries such as software design, information technology (IT), and construction. The construction industry had been the primary focus of research, while other industries lagged behind (Yan & Liu, 2016). IT project management had been researched for the last 20 years (Pimchangthong & Boonjing, 2017). Various approaches to project management for software development have been explored since 1970 (Stoic, Ghilic-Micu, Mircea, & Uscatu, 2016).

The literature reflected a concentration on project management related to IT, construction, and software development. The optimal schedule during the lifecycle of a software project deteriorated when faced with disturbances (Shen, Minku, Bahsoon, &Yao, 2016). But, as with any industry, projects have been exposed to risks.

Project risks had been segmented into three major areas: customer organization, vendor organization, and the project itself (Verner & Abdullah, 2012). As the meat industry consolidated, increased pressure occurred in the development and release of new products. One reason for increased pressure had been the existence of fewer organizations to meet the needs of increased markets, diverse global markets, and customers' changing demands. Organizations in the food industry continually developed new products to meet the changing needs and wants of customers (Saeed, Grunert, & Therkildsen, 2013).

A faster development process has pressured stakeholders involved in meat processing projects to shorten project life cycles. Pressure to shorten product development life cycles has been deemed necessary to address competition in manufacturing industries (Popescu, 2015). In the meat industry, projects were reflected by organizations' approaches to project management as either structured or unstructured.

Unstructured Project Management

Projects in the U.S. meat processing industry were unstructured and required increased focus by the project manager. Although significant information was available for food processing manufacturing layouts, the information was not systematically linked to design and evaluation (Wanniarachchi, Gopura, & Punchihewa, 2016). Uncertainty had been a typical aspect of projects in meat processing (Stuart & Worosz, 2012). The more uncertainty that existed

in a project, then the more important it was to have a manager in place with authority, expertise, and influence (Lin, Wu, & Cheng, 2015). Even with a focus on project management and awareness of best practices, outcome potential was lost (Klakegg, 2016).

Project issues further increased when organizations did not have a systematic risk management process (Miklosik, 2014). Certain levels of risks were associated with project life cycles regardless of structured project management. The results of one study showed no significant differences existed between structured and Agile methods (Estler, Nordio, Furia, Meyer, & Scheider, 2013). Another study claimed product development processes were unstructured with ad hoc activities (Vasantha, Chakrabarti, & Corney, 2016).

The unstructured method in which projects have been executed in the meat industry may not have been efficient or effective. Despite the project structure, organizational and cultural context influenced project success (Wiewiora, Murphy, Trigunarsyah, & Brown, 2014). Project management required use of structured and unstructured processes and tools (Cullen & Parker, 2015).

Structured Project Management

One study claimed a structured approach to projects was necessary to achieve strategic business alignment (Kruger & Rudman, 2013). Projects benefited when the project life cycle was managed in a process manner. A process-centric approach was shown to have provided the strongest tools for applying PMBOK (Rdiouat, Nakabi, Kahtani, & Semma, 2012). A new project could be structured that outlined planning and performing processes with models such as Scrum, XT, or Extreme Programming (Klüver, 2012).

Methods and processes were available to address changes to the project life cycle. One substitute to managing the shortened project life cycle had been crashing a project completely to shorten the overall project duration (Mohammadipour & Sadjadi, 2016). Crashing a project retained the project's schedule, but with a significant effect on quality, budget, or both (Project Management Institute, 2013). An alternative to crashing a project was another model to address the shortened project life cycle called Agile.

Studies demonstrated that Agile encouraged flexibility, but required some type of structure, which posed an oxymoron to the researchers (De O. Luna, Kruchten, do E. Pderosa, de Almeida Neto, & de Moura, 2014). The level of flexibility provided by Agile enhanced the ability for meat processing organizations to manage condensed project life cycles. However, it would have been challenging to apply Agile to meat processing projects, since Agile was hard to sell to project managers who did not already believe in its application (Cram, 2012).

Anecdotal information reflected that meat processing projects needed to balance the risks against the potential benefits for consumers (Wyser, Adams, Avella, Carlander, Garcia, Pieper, Rennen, Schuermans, & Weiss, 2016). Projects started with structure, but shifted as it progressed through various stages. Situations described during anecdotal research echoed the frustrations shared by project managers when influencing factors caused deviations from the structured process (Taylor, 2016). One study concluded that the most important risk factor for lack of team dedication to a project was an unclear or changing project scope (Lech, 2016).

When permanence and continuity did not occur in a project, there was less likelihood of identification to the project (Telles, Duarte, Queiroz, & Novaes, 2016). Structured processes have been shown to be constrictive and led to the development of Agile (Estler, Nordio, Furia, Meyer, & Schneider, 2013). No data was found in the body of literature prior to this research connecting Agile applications to project management in meat processing organizations.

Project Life Cycles

A rigid project life cycle was not defined by PMBOK (Rui Manuel da, 2013). It was perhaps this undefined time frame for a project life cycle that allowed influences to compress the project life cycle. Compressing a project life cycle may have triggered unanticipated events. Project schedules were not guaranteed due to multiple uncontrollable events (Eizakshiri, Chan, & Emsley, 2015).

Moreover, risks in the project life cycle may have been linked to poor assumptions developed at the beginning stages (Nenonen, Kivistö-Rahnasto, & Vasara, 2015). Such assumptions may have included a realistic time frame for project completion. One research study determined life cycle failure risks were associated with time problems resuluting from technical issues in the project (Zeynalian, Trigunarsyah, & Ronagh, 2013).

Uncertainty generatednthroughout the project life cycle related to risks, which also needed to be managed (Luo & Han, 2013). These risk perceptions allowed an organization to develop and incorporate process controls (Brookfield, Fischbacher-Smith, Mohd-Rahim, &

Boussabaine, 2014). But some risks were not easily identified or were difficult to quantify (Li & Zou, 2012).

A longer duration of projects had an effect of incurring more risks (Reed & Knight, 2013). The exploration of various risks associated with the shortening of the project life cycle needed to include more specific aspects of industries, as well as external and internal factors, along with deliverables. In addition to the longer duration of a project, the project goals were made more difficult to achieve and typically were tied to time constraints (Yugue & Maximiano, 2013).

A number of problems were embedded in project decisions (Oueslati, 2016). One problem with the development of consumer ready meat processing projects was change requests. Change requests impacted projects and introduced more risks associated with the installation of projects (Butt & Jamal, 2017). Identification of risks in the project impacted its development and success (Crnković & Vukomanović, 2016).

One study showed larger projects were more difficult to manage and introduced more risks (Amrit, van Hillegersberg, & van Diest, 2013). Large projects were typically divided into phases that are industry dependent called lifecycles (Alecu, 2012). These large projects added complexity and increased risks in their life cycles (Ebrahimnejad, Mousavi, Tavakkoli-Moghaddam, & Heydar, 2012). Risks existed in all types of project and in all industries.

Industry

A number of industries have been identified in the literature as using project management to benefit organizations. Initially, project management and the project management office (PMO) was used in aerospace and heavy construction industries, but project management had expanded to almost every industry and type of project (Desmond, 2015). Some of these industries have used project management and continued to address issues with the complexity of the project life cycle. More organizations have shown a need to rely on project management (Borštnar & Pucihar, 2014).

A significant amount of project life cycle research continued to be directed at information technology (IT), construction, software development, and other manufacturing industries. Project management had been shown to be useful in railroad construction (Foroughi & Esfahani, 2012). Rapid changes in the global construction industry also required the application of tools outlined by project management techniques (Chou & Yang, 2012).

Although project management was widely used in the IT industry, studies had shown that only 2.5% of all companies managed to complete a project 100% successfully (Rasnacis & Berzisa, 2015). In software development projects, the life cycle was incremental and iterative (Medvedska & Berzisa, 2015). IT project management had been challenged by customer environments and demands for new product releases (Botchkarev & Finnigan, 2015). Another industry that had used project management was the construction industry.

Researchers of construction management have attempted to identify causes and effects of project delays (Eizakshiri, Chan, & Emsley, 2015). Rapid technology changes and an evolving

market have challenged IT organizations who have relied on projects to meet customers' needs (Dass, 2012). Rapidly changing events and consumer demands have been issues facing the food industry that have had lasting effects on project life cycles.

Food Industry

Industry. Little documentation of the food industry had previously existed outside of the bio-technical aspects of nutrition, foodborne illnesses, and food supply chain safety. Market demands had challenged the food manufacturing industry to be efficient and highly responsive to customers' demands (O'Reilly, Kumar, & Adam, 2015). Engagement tools for these areas of interest had been physical projects that have had compressed life cycles. The U.S. food industry has continued to be capital intensive that required investment in projects (Geylani, 2015).

High capital investment reflected the reluctance expressed by organizations related to risky projects or projects that had shortened project life cycles. Research showed cognitive changes had to be implemented before behavioral changes were demonstrated for managers, customers, and suppliers (O'Reilly, Kumar, & Adam, 2015). Behavior within the industry continued to be reflected within the globalization of the food chain supply. The linkage between food manufacturing, economies, and human consumption mandated the effective and efficient food chain supply (Tong, Yu, Jensen, De La Torre Ugarte, Daniel, & Cho, 2016).

Meat Processing. The meat processing industry had recently witnessed significant changes in its structure (Fattahi, Nookabadi, & Kadivar, 2013). In the U.S., a handful of companies control the production of beef, pork, and poultry (Nowlin, Spiegel, & McHenry, 2015). Beef and pork industries were complex with numerous factors stimulating competition

(Wohlgenant, 2013). Varying industries required different functions for a project manager, indicating knowledge, skills, and abilities (KSA model) as functions of the work and industry (Ahsan, Ho, & Khan, 2013).

Globalization and the widening product assortments had improved the meat industry, but improvements were still needed (Luczka, 2014). Consumers of beef products have engaged more with the industry and stakeholders to promote improved production methods (de Souza, Petre, Jackson, Hadarits, Pogue, Carlyle…& McAllister, 2017). Increased demand for meat products challenged meat processors to produce innovative products with minimal environmental impact (Troy, Ojha, Kerry, & Tiwari, 2016). High volatility and variability of demand challenged meat production systems for production line project improvements (Xie & Li, 2012).

New and innovative technologies were continually being developed to produce high quality, sustainable, and cost-effective meat products (Troy, Ojha, Kerry, & Tiwari, 2016). Corporate expansion and market power in the North American meat industry had also increased internal strife (Belk, Woerner, Delmore, Tatum, Yang, & Sofos, 2014). Contributing to organizational strife was the shortened project life cycles.

Contributing Factors to Shortened Project Life Cycle

Multiple factors influenced a project and the project life cycle. Project risk factors were categorized as internal or external (Luppino, Hosseini, & Rameezdeen, 2014). Internal and external factors modified the project life cycle by varying degrees. Internal factors that influenced the project life cycle in meat processing organizations included: culture, management structure, executives, behavior, communication, personal objective of the project manager, and

key performance indicators (KPIs). External factors observed to have influenced the project life cycle were: consumers, retailers, equipment suppliers, stakeholders, and regulations.

Internal Factors

Culture. The organization of a project was generally a reflection of an organization's culture (Allen, Alleyne, Farmer, McRae, & Turner, 2014). A deep cultural history of the meat industry was first exposed in *The Jungle* (Sinclair, 1906). Although the meat industry had evolved since that era, some underlying aspects of the cultural threads have remained.

There was a desire for secretive animal slaughtering and production for a number of reasons (Leroy & Degreef, 2015). One study reflected similar working conditions in current existence (Gaston & Harrison, 2012). For the meat industry to address working conditions, projects have been implemented not only for productivity, but also to address other stakeholders' concerns, including working environments.

Organizational Structure. Projects have been initiated to benefit organizations and related stakeholders. In the meat industry, there had been a close-knit supply chain in which individuals gained tribal knowledge of processes through organizations' cultures, programs, and missions. Some research would lead one to believe that organizational goals can only be achieved when "right" projects were selected after a long iterative process (Oueslati, 2016). The meat industry had not been afforded the luxury to choose projects as customers (consumers) mandated products be delivered to meet specific needs and desires.

Changes in the meat processing industry over the last 20 years have shown an explosion of knowledge, making it possible to build equipment and develop new production lines (Barbut,

2014). New production lines and equipment needed to be addressed using a systematic methodology. Project methodology had to be aligned with organizational culture, environment, and the project, which could include a combination of Agile and traditional methodologies (Azanha, Ana Rita Tiradentes Terra Argoud, João Batista de Camargo Junior, & Antoniolli, 2017).

Lack of knowledge and a decreased amount of retained information increased anxiety among project team members (Kai-Ying, 2014). It was shown that conflicts existed when projects were not integrated as part of the organizational culture (Miklosik, 2014). Such conflicts were related to the organizational culture, as well as various external factors, which increased the overall risks associated with the shortening of the project life cycle. Dysfunctional aspects of an organization were observed when unforeseen tasks were encountered that did not receive proper attention, which consumed more time and resources (Chanda & Ray, 2016).

The traditional "plan-then-execute" strategy was less effective in many organizational structures (Leybourne, Warburton, & Kanabar, 2014). The structure of meat processing organizations was functionally based, not project based. In a functionally based organization, senior managers controlled the resources and decisions made on projects (Hällgren & Lindahl, 2017). Therefore, executives in meat processing organizations played a significant role in the compression of a project life cycle.

Executives. A project manager often used higher authorities, such as executives, to influence and navigate a project (Dillon & Taylor, 2015). Effective executive sponsors of a project facilitated communication and remove roadblocks to advance stages of a project

(Kloppenborg & Tesch, 2015). Senior managers and stakeholders needed to understand risks of a project and their associated purpose and function (Windapo, Oyewobi, & Zwane, 2014).

Executives sought to manage projects through established metrics and goals to insure resources were applied effectively (Mulisani & Garcez, 2014). Many organizations' top management have struggled with the project life cycle due to multiple factors effecting the cycle, including limited resources (Gomes, 2013). For this study, it was important to explore the behavior of individuals in the meat processing organizations.

Behaviors. It was shown to benefit the project's chance of success when the project manager was cognizant of the human aspects of an organization and its stakeholders. Management of a project required understanding of an organization and human resources processes (Errihanni, Elfezazi, & Benhida, 2015). Understanding the human aspect that influenced the shortening of the project life cycle was beneficial to project management.

Optimism bias was a behavior widely accepted to be a major contributing factor for the need to establish unrealistic project timelines (Prater, Kirytopoulos, & Ma, 2017). Project managers needed to continually improve project management methods to insure goals were met (Terzieva & Morabito, 2016). Collaboration skills were important to manage stakeholders (Richardson, Earnhardt, & Marion, 2015). A common improvement noted in a number of research papers was the communication process involved in projects.

Communication. Interaction of project team members had been shown to be a driving element of the team's performance. Successful project managers had demonstrated the ability to

facilitate communication between stakeholders (Kloppenborg, Tesch, & Manolis, 2014). Communication was highly important for facilitating information among stakeholders (Chou & Yang, 2012).

Communication of internal and external audiences affected all stages of the projects. Project teams have operated independently and were fragmented, which had led to conflicts, incoherent decisions, and decayed communications (Lin, Wu, & Cheng, 2015). Conflicts between project team members had further reflected on the entire organization (Zhang & Huo, 2015).

Facilitation of accurate and timely communication was shown to bridge the stakeholders' interests with the duties of the project manager. Internal communication in the food industry and associated research had been limited (Jacobsen, Grunert, Søndergaard, Steenbekkers, Dekker, & Lähteenmäki, 2014). Project managers' duties had encompassed a variety of tasks that ultimately delivered an accepted end product.

One study based on construction projects identified poor communication between stakeholders as the third most significant factor leading to project failure (Ikediashi, Ogunlana, & Alotaibi, 2014). Therefore, communication should be active in project management. Communication should provide direction to the ultimate outcome of projects (Ziek & Anderson, 2015).

Personal Objectives. Projects have never been initiated or completed without individual activities directed by a project manager or a lead person. Distinguishing what project managers actually do and recognizing what tools were utilized provided a better understanding of project

management resources (Besner & Hobbs, 2012). Similar to the myriad definitions of project success, the duties of project managers have been broadly defined with many dimensions. One important dimension of a successful project manager that was continually noted was the leadership style and personality type (Klüver, 2012). Responsibilities of the project manager included satisfaction of stakeholders' needs, expectations, and project deliverables.

One main duty of the project manager had been to address issues that may have compromised deliverables effected by resource allocation and stakeholder conflicts (Dillon & Taylor, 2015). A project manager needed to direct the project through its life cycle and also select a system that would be effective to fit the culture of the specific organization (Eastham, Tucker, Varma, & Sutton, 2014). Resolving conflicts was difficult for the allocation of resources (Zhang, 2014). These conflicts were germane to team actions and interactions between stakeholders. Project managers had less time to address organizational issues driven by organizational culture (Szabó & Csepregi, 2015).

The previous focus of projects had centered on time, costs, and deliverables with little attention paid to personnel. Traditional project management focused on tasks and results instead of human aspects (Parker, Charlton, Ribeiro, & Pathak, 2013). A lack of competencies of project team members contributed to the unsuccessful delivery of a project (Lapunka & Pisz, 2014). This was not to suggest that deliverables were primary drivers, but rather individuals, interactions, and communications played much more critical roles when addressing project life cycles. Research showed leadership changed throughout the project life cycle, with shared leadership demonstrated at the early stages rather than later stages (Wu & Cormican, 2016).

Project managers needed to be pragmatic and support the progression of a project, which often meant assigning or completing work no one else wanted to do (Jesnse Oeligaard, 2013). Limited resources, specifically labor, contributed to the stress placed on project managers of projects in the meat industry. For project managers and teams to successfully manage projects, larger skill sets were required to engage stakeholders (Pinto & Winch, 2016). Additionally, project managers have previously established beliefs and values systems to construct the boundaries of an organization's ethics, behavior, and code of conduct (Rezania, Baker, & Burga, 2016).

An understanding of critical elements highlighted in PMBOK and project life cycle strategies contributed to success factors of the project implementation (Rui Manuel da, 2013). Project management and the application of tools relied on the human factor to properly implement activities to complete the project (Mas, Mesquida, Jovanović, & Barceló, 2016). One could argue that project management was a combination of science and art (Brewer & Strahorn, 2012). Project managers needed to possess a broad understanding of the project and have a strong grasp on interpersonal skills (Ahsan, Ho, & Khan, 2013).

Key Performance Indicators (KPIs). It was imperative to use KPIs specific to each industry (Eadie, Browne, Odeyinka, McKeown, & McNiff, 2013). In one study, food industry respondents noted processes had been changed based on KPIs' results (Torkko, Linna, Katajavuori, & Juppo, 2013). Key performance indicators were classified into three levels: strategic, tactical, and operational (Anand & Grover, 2015). These indicators drove projects for meat processing projects.

External Factors

Organizations were presented with new consumer ready products to be delivered to the market by specific dates. These companies were faced with rapid proliferation of new products with shortened product life cycles (Lin, Wu, & Cheng, 2015). A number of factors contributed to the pressure of delivering a project that may have external influences shortening the overall project life cycle. Research had previously demonstrated the consideration of multidimensional contexts depending on the type (internal or external) and complexity of a project (Besner & Hobbs, 2012).

Although external factors were not controlled by project managers, those factors needed to be managed. Environments have introduced complexity and uncertainty to project management, which made it difficult to identify and determine success and failure factors (Chipulu, Ojiako, Gardiner, Williams, Mota, Maguire, Yongyi, Teta, & Marshall, 2014). One research survey reflected time-related factors such as: design change, customer-initiated change, slow decision making, poor site management, and environmental conditions contributed to project failure (Doloi, 2013).

Other factors contributed to project challenges for meat processing. Dynamic environmental conditions have been challenging for many industries (Ramos, Mota, & Corrêa, 2016). Project life cycles in meat processing companies have faced environmental factors, including: customers, equipment suppliers, regulations, and volatile commodity markets.

Consumers. A potential customer of a meat processing organization is an individual who consumes meat. One important challenge in the meat industry had been increased consumer concerns of food safety and sustainability (Bansback, 2014). An increased difference of

communication strategies and cultural characteristics between customers and providers contributed to project failures (Jørgensen & Yamashita, 2016). However, one author argued that a relationship between consumers and meat processor did not and could not exist (Daluiso, 2012). High level of customers' demands introduced increased risk to a project, and thus made goals more difficult to achieve (Amrit, van Hillegersberg, & van Diest, 2013).

Continued demands for improved meat products by consumers have challenged meat processors to implement projects to meet the demands (Troy, Ojha, Kerry, & Tiwari, 2016). Consumers' preferences have influenced the products and upstream supply in beef production (Lin, Hu, Maynard, & Goddard, 2013). Evidence continued to reflect that consumers of meat products considered more variables in purchases beyond food safety incidents (Dresscher, Jonge, Goddard, & Herzfeld, 2012). Recent demands to extend food product shelf-life in processed foods have challenged equipment manufacturers (Mohebi & Marquez, 2015).

Retailers. Meat retailers had attempted to address competition by differentiating their products (Groenewald, Prinsloo, & Pelser, 2014). Expanding the range of consumer ready food products had been challenging for adaptation to new or existing processing lines (Barbut, 2012). According to one research study, a contributing element to the challenge was the fact that customers' perceptions have been shown to be a major contributor of purchases in a food market (Azad, 2012).

Furthermore, retailers who directly interacted with stakeholder were often more sensitive to the desires of their customers and communities (Souza-Monteiro & Hooker, 2017). In order to retain food customers, retailers needed to reduce transaction risks and develop trust (Shih-Tse

Wang & Tsai, 2014). Identification of consumer demands and then conveying those requested food products was a role assumed by retailers (Esbjerg, Burt, Pearse, & Glanz-Chanos, 2016).

Equipment Suppliers. Meat processing has required specialized equipment that is manufactured by a finite number of suppliers. Equipment that contacted food must be constructed of acceptable material, such as stainless steel, ultra-high-molecular-weight polyethylene (UHMW), Delrin®, or other items designated for direct food contact. Food processing technologies and equipment must have met higher hygienic and safety standards since the end product was directly related to human consumption (Huang, Wu, Lu, Shyu, & Wang, 2017). The selection of adequate productions systems improved working conditions in the meat processing industry (Arvidsson, Balogh, Hansson, Ohlsson, Akesson, & Nordander, 2012).

Although the consumer ready segment of meat processing has continued to grow, conventional methods were still being used instead of more innovative processing technologies (Stratakos & Koidis, 2015). Most equipment used in the meat industry and processing projects has been custom-made and incurred long lead times. Fabrication of specialized equipment also incurred a higher cost (Saravacos, & Kostaropoulos, 2016).

Planning projects have been shown to take a period of several months to over a year. Global manufacturing further added to the time delays based on shipments and customs. The reliability of food processing equipment had been a concern for meat processing organizations (Xi & Li, 2012). Concerns of processing equipment and end products were shared by stakeholders.

Stakeholders. It was important and necessary for project managers to implement different communication strategies that reached stakeholders and conveyed aspects of the project (Stoshikj, Kryvinska, & Strauss, 2014). One study of a leading global meat processor, JBS SA, had identified the key stakeholders to include all employees, suppliers, the labor union, and various special interest groups (Ghazzawi & Palladini, 2016). Multiple stakeholders also existed within U.S. meat processing facilities dispersed geographically, in both rural and urban areas, in the United States. Stakeholders played an important role in development of project risks and decision making (Yang, Zou, & Wang, 2016). A central issue with project management was the management of stakeholders (Gemünden, 2015).

Regulations. Processing of meat must be done in a sanitary environment (Denny, Worosz, & Wilson, 2016). The U.S. food system is regulated by myriad laws that have been cumbersome (Lacy, 2013). Regulations were intended to insure the proper and safe production of food. Some regulations influenced the project life cycle, specifically the physical production envelope and associated processing equipment.

One study showed meat and poultry establishments had incurred substantial costs for equipment and to meet process regulations (Viator, Muth, Brophy, & Noyes, 2017). One cost that had not been considered in the study was the time frame to manufacture processing equipment. As noted earlier, processing equipment was customized and had to meet strict regulations and guidelines for performance and food safety.

In order to comply with regulations, some organizations' facilities were forced to make costly equipment upgrades (Wengle, 2016). These regulations and upgrades needed to be incorporated into the project scope to insure compliance was maintained while meeting the

objectives of the deliverables. Tangible deliverable key performance indicators for meat processors were categorized into several major areas: yields, labor, and human performance (attendance, safety, etc.).

Deliverables

Key Performance Indicators (KPIs). Project management improvement was considered to be driven by measurement of project performance outcomes (Almahmoud, Doloi, & Panuwatwanich, 2012). Thus, a solid, results-based monitoring system was central to a project life cycle (Arif, Jubair, & Ahsan, 2015). The key performance indicators of a project reflected the project's overall goals and measurement of progress towards those goals (Kylili, Fokaides, & Lopez Jimenez, 2016).

For some projects, it may have been useful to standardize key performance indicators for consistency and comparability in reporting progress to stakeholders (Smith & van der Heijden, 2017). Key performance indicators for projects were typically lagging indicators. One could argue the key performance indicators for projects were lag indicators that presented historical results (Graham, Goodall, Peng, Palmer, West, Conway, Mascolo, & Dettmer, 2015). The historical results could not be indicators of future success.

Conversely, one monitor and control technique known as the balanced scorecard (BSC) has been shown to improve a project's outcome (Montes-Guerra, Gimena, Pérez-Ezcurdia, & Díez-Silva, 2014). Certain key performance indicators were generic to most projects. For one study, the criteria used to determine project success included: customer satisfaction, short-term success for the supplier, and long-term success for the supplier (Savolainen, Ahonen, &

Richardson, 2012). Varying perspectives had led to differing views of a project's success or failure.

Project Success. Various definitions of the term *project* have been applied to project management with one tenant: an agreed upon beginning and end point (Errihani, Elfezazi, & Benhida, 2015). These bookends have marked the time boundaries of a project, but the bookends have provided little information related to the actors and definition of a project's ultimate success. Each project demonstrated some aspect of uniqueness (Winch, 2015). Success of a project was considered to be in the interest of the end customer. With a number of stakeholders and partners in the supply chain, project success or failure was generically defined.

Defining the success of a project had been a diverse challenge for organizations to clearly identify. Confusion over the definition of success had contributed to the problem of shortening the project life cycle (Langston, 2013). Stakeholders had considered specific areas of a project as successes or failures related to their interests. Considering stakeholder satisfaction was a key criterion for project success (Pimchangthong & Boonjing, 2017).

Project success in one study had been attributed to personnel skills and team building, while problems had been classified as cultural and communication difficulties (Estler, Nordio, Furia, Meyer, & Schneider, 2013). Success was defined by various stakeholders differently, making project management more challenging. A simple definition identified project success as the project outcome meeting strategic objectives of the investing organization (Serrador & Turner, 2015).

Some researches claimed project success was focused on customer satisfaction (Dass, 2012). One research projected indicated that project success was defined differently for the

supplier and customer (Savolainen, Ahonen, & Richardson, 2012). A customer or stakeholder may have concluded a project was a success, while others may have deemed the project a failure based on their individual criteria.

Project Failure. Conversely, project failure by its strictest definition would include no deviations in schedule, budget, or scope (Bolin, 2012). Many projects have failed as a result of insufficiently considered risks (Fabricius & Büttgen, 2015). Research from various industries had demonstrated deviations that occurred in schedules, budgets, and project scopes (Wei, Bao, Yao, & Wang, 2016). These areas may not be affected concurrently; but, they point to various contributors to the overall project failures.

Project failures have been classified as process-driven, content-driven, or context-driven (Liebowitz, 2015). It is these classifications that have subjectively determined failure or success. Project failures had encompassed a matter of perspective, classification, and identification (Hughes, Rana, & Simintiras, 2017).

Research had shown project failures, particularly in software, were contributed to people, tasks, methods, and environment (Lehtinen, Mäntylä, Vanhanen, Itkonen, & Lassenius, 2014). A lack of understanding, focus, or research on these contributors may be due to organizational structure. Failure to understand project risks had resulted in increased failures, losses, and affected organizations business objectives (Verner & Abdullah, 2012).

The failure of new product development projects for food manufacturing depended on the definition of a new product (Ryynänen & Hakatie, 2014). The collective definition of a project failure included a combination of stakeholders' expectations. One study had chosen project

time, cost, and profitability as criteria to determine failure (Chen, 2015). Ultimately, the researcher had argued that a project was completed in either a successful or failed state.

Theoretical Framework for Improved Business Practice

Analyzing the food processing industry required an understanding of the consumer, the regulatory environment, and the ways the industry sustained profitability in a shrinking market (Desai, Kotadiya, Makwana, & Patel, 2015). Projects have been developed to meet the goals and objectives of many stakeholders. In the food manufacturing industry, decisions have been made to meet increasing demands and organizations have been faced with complex advanced technologies (Mirabella, Castellani, & Sala, 2014). Other facts of the food industry were needed for the reader to understand the global complexity and constraints of this industry.

Corporations have uniformly branded ready-to-consume products through rapid acceleration in food science techniques (Monteiro, Moubarac, Cannon, Ng, & Popkin, 2013). Although food science techniques have accelerated, companies have been slow to incorporate change. The food processing industry had been challenged by its own conservative nature and slow adaptation to change (Desai, Kotadiya, Makwana, & Patel, 2015).

Global population continued to expand, which highlighted concern that future food production was limited by land and water resources (D' Odorico, Carr, Laio, Ridolfi, & Vandoni, 2014). Some would argue that food companies sought to reduce waste only if it benefitted their profitability (Warshawsky, 2016). No matter what the rationale for engaging projects, it was necessary to examine theories applicable to project management in meat processing.

In order to better understand the participants' actions within each project, it was important to have explored the Actor-Network Theory (ANT) and Cause-and-Effect Theory.

Additionally, with limited and finite resources and the management of shortened project life cycles, numerous stakeholders have demanded that meat processing organizations address their plans for continuous improvement and sustainability. The project management tools had contributed to the application of theories, and thus explain the actions taken by participants and stakeholders.

Actor-Network-Theory

Group dynamics and effectiveness have depended on a group's ability to keep members engaged (Smiljanic & Dankulov, 2017). For a project to be successful, team building had been identified as essential (Project Management Institute, 2013). Project teams and network theory were explored in this research. Actor-Network Theory (ANT) focused on networks and social interrelations within the networks (Johnson, Creasy, & Fan, 2016).

Channels of communication, as well as effective and efficient information, were critical to a project's success. A lack of communication has led to a project's failure (Project Management Institute, 2013). The more actors (participants) involved with a project, the more channels of communication and complexity that existed. A total number of communication channels is n(n-1)/2 where n represents the number of stakeholders (Project Management Institute, 2013). Although communication channels were finite, as noted in the equation n(n-1)/2, connections can be extended in this study.

Actor-Networks were infinite in the number of actants, connections, and were infinitely extendable (Jackson, 2015). A project team should be focused on the completion of a project that meets the needs of stakeholders. Internal conflict relationships existed within a team, but the team's focus should have been on tasks and relationships (Wu, Wu, Xie, & Lu, 2015).

Cause-and-Effect Theory

Problem statements described a problem as a gap where the causes were discovered by asking "why" questions (Project Management Institute, 2013). In this research, questions were asked to examine the cause-and-effects of decisions on and by participants of projects. Project management uses cause-and-effect theory as a tool as illustrated by Ishikawa diagrams (Project Management Institute, 2013).

As a theory, cause-and-effect was used to explore the interactions and decisions made by the study participants. A researcher should be motivated to discern causes and effects to explain interactions among components of a process (Hira & Deshpande, 2016). Cause-and-effect relationships represented complex criteria of stakeholders that was represented as a visual network structure (Cheng, Liou, & Chiu, 2017). To expand on these theories and provide a solid foundation for improved business practices, several project management tools were examined.

Continuous Process Improvement

Process improvements have been utilized by organizations to manage change, minimize waste, and positively build financial aspects of the company (Project Management Institute, 2013). Quantifying results have relied on key performance indicators. Key performance indicators (KPIs) had defined project constraints and could be applied at any stage of the project, not only at the project's completion, to determine success (Langston, 2013).

Process level projects altered quality, time, outflows, and individual processes in positive, negative, or neutral dimensions (Lehnert, Linhart, & Röglinger, 2016). An organization that sought continuous improvement could adopt PMBOK, which covered product lifecycle (Rdiouat, Nakabi, Kahtani, & Semma, 2012). Another study claimed Earned Value Management (EVM)

application, with required continuous improvements, would not have enhanced a project's performance without improved operational capabilities (Chou, Yu, & Tzeng, 2016). Unfortunately, Lean and Six Sigma have not been implanted to their full potential in the food industry (Desai, Kotadiya, Makwana, & Patel, 2015). Tools for the management of the shortened project life cycle in manufacturing processes had included Six Sigma and Lean.

Six Sigma. Literature acknowledged that stakeholders and analysis of stakeholders was critical to the success of projects (Elias, 2016). Similar to the five stages of a project life cycle, Six Sigma relied on Define-Measure-Analyze-Improve-Control (DMAIC), which had overlapped project life cycle events (Sunder, 2016). Management of shortened project life cycles would have benefitted from the implementation of Six Sigma since project management and Six Sigma methods have been carried out in phases (Rapaka, 2017).

Implementation of Six Sigma by organizations had been used to drive competitive advantage. In order for Six Sigma to be successful, the selection of projects was the most critical and the most complicated task (Rathi, Khanduja, & Sharma, 2015). A risk management framework, combined with Six Sigma, had been designed to address unforeseen risks associated during project execution (Tariq, 2013).

One risk specific to this research had been time constraints and the waste associated with time allocations. The equation most important for understanding Six Sigma was $Y=f(x)$ with Y as the effect and x as cause(s) (Rapaka, 2017). Time constraints, or condensing of the project life cycle, would have been causes to address with Six Sigma.

Selection of the right project was a critical factor for success when applying Six Sigma (Wan, Hsu, & Tzeng, 2014). During the first phase of a project, the identification of needed

improvements and the alignment of good practices of project management were considered (Hors, Goldberg, Almeida, Babio & Rizzo, 2012). Lean was also another tool used for improved project processes and elimination of waste.

Lean. The core concept of lean was the evaluation of sequential events and the losses in the time intervals (Suetina, Odinokov, & Safina, 2014). With time constraints, some industries have experienced more impact, such as semiconductor manufacturers. The time factor for meat processing was comparable to semiconductors in the amount of time required to introduce a product to the market. Semiconductor projects that were delayed missed entire market opportunities (Eastham, Tucker, Varma, & Sutton, 2014).

A tool developed for project management was Agile, which paralleled Lean. Agile was focused on timely and rapid responses to change, while lean was focused on waste (De O. Luna, Kruchten, do E. Pderosa, de Almeida Neto, & de Moura, 2014). Both tools were concentrated on the time factors associated with the condensed project life cycle. Time management and the larger consideration of time as a resource had the potential to impact the sustainability of food manufacturing (Papargyropoulou, Lozano, Steinberger, Wright, & Ujang, 2014). Reduction in project lead time may negatively have affected product quality, human capital, and led to overall increased waste (Khurum, Petersen, & Gorschek, 2014).

Sustainability

Sustainability needed to be integrated within the working cultures of industries that had encountered a high of adverse environmental impacts (Sertyesilisik, 2016). The life cycles of consumer products are short, and the associated packaging has increased, which contributed to adverse environmental issues (Xie, Qiao, Sun, & Zhang, 2012). A systematic approach to

project life cycle contributed to the sustainability of resources in the global food chain. Application of PMBOK standards showed effectiveness in project cost, time, and quality goals compared to arbitrary management tools (Errihanni, Elfezazi, & Benhida, 2015).

Time has always been a critical resource to the production of food products and the project life cycle. Food products needed to be offered to the market for sale and consumption, or those items become unsustainable for the society, the environment, and the economy (Garrone, Melacini, Perego, & Sert, 2016). Management of shortened project life cycles had implications on the consumption of finite resources, including human capital for the production of consumer ready food products.

An increased emphasis had been shown to evaluate project performance in the areas of health, safety, and environment (Meng, 2014). Control of projects had been deemed necessary for organizations to generate fiscal responsibility and customer satisfaction (Rdiouat, Nakabi, Kahtani, & Semma, 2012). One study showed a general lack of knowledge or understanding of the importance of infrastructure related to sustainable performance (Enshassi, Kochendoerfer, & Ghoul, 2016). Another study claimed projects needed to meet or exceeded stakeholders' expectations within the context of sustainability (Eskerod & Huemann, 2013). Ultimately, organizations gathered knowledge and produced products based on the needs of customers.

Improved Business Practices

The U.S. food industry employed about 1.5 million people with 31,000 manufacturing plants (Sujit & Rajesh, 2016). This increase in human capital provided additional context to the implications of project management and the need to address the management of condensed project life cycles. Additional resources were employed in this tightly connected food supply

chain, including: farmers, ranchers, equipment manufacturers, logistics, utilities, and other ancillary support industries and organizations. One small ripple or change in the project life cycle had reverberating and significant effects on multiple actors and industries. It was estimated that along the food supply chain, food loss due to spoilage is between one-third and one-half of all food produced (Hallström & Börjesson, 2013). Although those estimated waste numbers appeared large, the impact of waste from the food supply chain had been further compounded by individual industries, organizations, factories, production lines, and people.

The U.S. food industry had accounted for one-sixth of the U.S. manufacturing sector's activity, and it was important to examine the management of project life cycles within the industry (Geylani & Stefanou, 2013). Plant level investment in equipment accounts for 84% of total investment (Geylani & Stefanou, 2013). With a high percentage of total investment in equipment, the downfalls of the shortened project life cycle had to be confronted to effectively and efficiently manage projects. One research paper opined that the inefficiency of the U.S. food system was appalling (Dou, Ferguson, Galligan, Kelly, Finn, & Giegengack, 2016). Inefficiency and mismanagement of a project had triggered myriad negative events effecting stakeholders.

Due to perishability and stakeholders' increasing demand for product variety, food producers had to be responsive to shorter response times (Romsdal, Strandhagen, & Dreyer, 2014). Organizations needed to determine the value and degree that the management of projects provided in cost reduction, efficiency, or increased revenue (Oliveira & De Muylder, 2012). Several major stakeholders in the food chain were addressed, which contributed to improved product options through better management of the condensed project life cycle of projects for consumer ready meat processing.

Consumers have effected change on consumer ready meat processors through proxy of retailers such as: convenience stores, grocery chains, big-box stores, and even restaurants. The food industry products had been directly engaged with consumers as these products were generated for final consumption (Suchánek, Richter, & Králová, 2015).

Potential Themes and Perceptions to be Explored

Consumers and other stakeholders may not be personally exposed to the effects of their actions that shorten the project life cycle of projects for consumer ready meat products. Not being aware of one's role does not make one less culpable to the reaction of the entire process. Literature on project management and the U.S. meat industry guided this study to explore several perceptions and themes that connected these subjects.

Two perceptions that needed to be explored were: individual behaviors of actors in the meat industry, and organizational structure and culture. The underlying theme further explored was knowledge management in the highly reticent meat processing industry. Knowledge management could have been hindered by the organizational structure (Bell, Van Waveren, & Steyn, 2016). It was important to advance the body of literature to expand on the interactions of individual behavior, organizational structures and cultures, and knowledge management.

Individual Behavior

Projects have involved diverse actors with opposing interests and agendas, which shaped the outcomes of projects (Bekker, 2014). One underlying theme that emerged from this research was the behavioral aspects of industries and organizations related to condensed project life cycles. One study showed little attention had been focused on the leadership role in a project environment (Krog & Govender, 2015). A research study concluded that project managers

should focus on uncertainty management of a project instead of risk management (Jerbrant, 2014). Additional research had explored the project life cycle in many industries and indicated that continually decreased life cycles had been a common thread in projects.

Behavior in the meat industry had been exposed by various media forms since the exposé of Upton Sinclair's, *The Jungle* in 1906. Current transparency reports in the meat industry and other organizations have touched on a theme of individual behavior, which may have significant impact on the project life cycle. By changing tasks and processes, emotions were introduced that could have impacted the organization's change and functionality (Bönigk & Steffgen, 2013).

Overconfidence of the project manager and defining risks may have further led to risky behavior (Fabricius & Büttgen, 2015). Risk management of projects had been used to influence the behaviors of stakeholders and maintain inter-stakeholder relationships (Didraga, 2013). Project managers needed to develop relationships within an organization in order to navigate a project within the constructs and constraints of the current organizational structure (Marion, Richardson, & Earnhardt, 2014). Such behavior had been reflective of individuals' actions and indicative of an organization's overall structure and culture.

Organization Structure and Culture

Organizational behavior had been researched extensively in various contexts and industries. The dilemma was that meat companies were functionally structured and not a matrix or project focused. An unavoidable challenged of the matrix organization format had individuals responsible to a project and project manager, while reporting to a functional manger (Moodley, Sutherland, & Pretorius, 2016). Advancement in project management required new and effective behaviors in organizations (Khan, Long, & Iqbal, 2014).

Changing the structures and cultures of large organizations required resources and metrics that could be evaluated to gauge performance (Olszewska, Jeidenber, Weijola, Mikkonen, & Porres, 2016). Limited research existed that had previously been focused on the organizational impact on project life cycles in the meat industry or specific meat processing organizations. Greater effort was needed to study the effects of organizational culture with project management (Nguyen & Watanabe, 2017).

Additional research focused on different industries had presented data reflecting the need for project management and tools to address the project life cycle. Top management support (TMS) was necessary for project success, although behavior changes from and by management was difficult (Young & Poon, 2013). Impact on project success developed or deteriorated based on organizational memory or what was communicated between project team members (Jugdev & Gita, 2013).

Researched organizations were made aware of the need for the implementation of project management process (Miklosik & Janovska, 2015). When the behavioral perspective was considered, the project owner was the only team member motivated solely by the project (Winch, 2015). A researcher might have been inspired to pose the question: do organizations define the industry or does the industry define the organizations? Multi-dimensional senior management support was shown to have increased the successful outcome of a project (Ahmed & bin Mohamad, 2016).

A general consensus could not be generated regarding the function and value of a project management office correlated to successful relationships of organizations or the performance of projects (Khalema, van Waveren, & Chan, 2015). The improvement of project management

reflected the impact the project management office had on the organization (Van Der Linde & Steyn, 2016). Depending on the organizational structure, project life cycles had been modified. Every organizational structure utilized in project management had presented interdependencies of the actors (Skalik, 2012).

Organizational cultures that had strong relationships with external factors were more likely to be responsive to customers' needs (Oerlemans, Kessel, & Stroe, 2014). Similarly, a project introduced something new and unique to an organization, and the project manager should navigate the relationships among all involved stakeholders (Hidding & Nicholas, 2014). Organizational environments established climates and cultures effecting project teamwork (Thamhain, 2012).

Knowledge Management

Knowledge-driven economies required organizations to focus on new project management methods (Pretorius & Oerlemans, 2014). The literature provided data to be explored related to the unique aspect of the meat processing industry. Traditionally, many industries reflected knowledge generated by projects that did not transfer or was not disseminated to the entire organization or industry (Mesquida & Mas, 2014). Although not completely unique to this industry, meat processing organizations have been shown to be highly narrative in the transfer of knowledge.

The application of traditional project management began with shared knowledge at the beginning of a project (Ahern, Leavy, & Byren, 2014). When information or knowledge at the beginning of a project was incomplete, issues had quickly emerged. Coupled with the condensed

project life cycle, time limitations of a project were a constraint of project knowledge management (Lapunka & Pisz, 2014).

Knowledge management had not been well examined in its role of project management and its effect on the organization and project (Lapunka & Pisz, 2014). For the meat processing industry, the narrative transfer of information had been critical to the development of projects for organizations. Storytelling of the project presented context and provided clues or indicators for future references (Farzaneh & Shamizanjani, 2014).

After the completion of a project, a concise narrative of the project should be constructed (Farzaneh & Shamizanjani, 2014). The implementation of learning processes have avoided knowledge drain and the hoarding of information (Rosa, Chaves, Oliveira, & Pedron, 2016). As with project management, the final stage had been the closure of the project and the summary of chronological events. Projects were typically multidisciplinary, and effective learning practices reduced costly future mistakes (Jugdev & Mathur, 2013). Knowledge leadership in project management significantly contributed to project success (Krog & Govender, 2015).

Transferring knowledge to others was a difficult task yet, was also a valuable asset for organizations to retain (Kiran, Agarwal, & Verma, 2013). Knowledge management that focused on projects fell into two categories; factor and process (Nishinaka, Umemoto, & Kohda, 2015). Individuals' actions were complex and shaped the application of knowledge management (Sultan & Bach, 2015). Research had previously shown that knowledge gained during a project was not significant to the productivity of the current project (Whyte & Minnaar, 2014). Research had suggested that knowledge transfer would be more useful to future projects than current projects.

One study had described the linking of project management and knowledge management as an approach to increasing organizations' agility from a competitive perspective (Sareminia, Shamizanjani, Mousakhani, & Manian, 2016). Knowledge management should involve stakeholders at all phases (Badal, 2013). Continuity of project knowledge identified gaps and provided value to the project team and organization (Bubel, 2015). Knowledge management in projects required further investigation as research work was sparse (Bubel, 2015). Some studies have investigated the organizational structure related to knowledge sharing and knowledge management.

Research studies have shown organizational structure had been an important factor in the transfer of knowledge (Asrar-ul-Haq & Anwar, 2016). One study had examined project management and suggested internal and external actors enhanced knowledge recombination at early stages (Lakemond, Bengtsson, Laursen, & Tell, 2016). Knowledge transfer enabled project execution and project completion to compliment the project management processes at various stages (Tavares & Pessoa, 2014).

In addition, an employee was considered to be a knowledge asset if they were valued for their competencies (Charhate, 2016). Project performance was improved with the application of knowledge management (Hemmati & Hosseini, 2016). But knowledge needed to be transferred from one individual to another.

More organizations have engaged knowledge transfer as a process of discovery through which each participant in a project secured tacit knowledge of their actions and results in the project (Kipli, Abdullah, & Mustafa, 2016). Knowledge management related to organizational

memory then consisted of individuals, technologies, organizational culture, and organizational structures (Terzieva & Morabito, 2016).

Transition and Summary

In this chapter, information was provided that highlighted myriad problems of the mismanagement of project life cycles introduced into the U.S. food manufacturing industry. Increased demands for food products had placed intense pressure on the industry to deliver more varied and improved products. These products were developed through projects and the project life cycle described in the PMBOK.

The literature review highlighted the problems of mismanagement of condensed project life cycles that existed in the food processing industry. Research questions were developed to explore how and to what extent the mismanagement of the project life cycle impacted deliverables. This qualitative study utilized case studies and participants' interviews to better understand the effects of mismanagement on deliverables and the participants. Actor-Network-Theory (ANT) and Cause-and-Effect Theory were employed to construct the framework in which the data was disseminated. The significance of the study presented a holistic approach to the problem of project cycle mismanagement in the U.S food industry, specifically consumer ready meat production. Multiple end results, such as individual well-being, project deliverables, product acceptance, and sustainability, were produced by the project life cycle mismanagement.

Chapter 2 will detail the research study. This case study research utilized specific cases of projects in the U.S. meat processing industry. The researcher was a Participant Observer to gain better access to the participants and capture more valuable data, which may not have been available to other observers. Purposeful sampling was used, and a range of projects was selected

to reflect a wide view of projects and engagement in the U.S. meat processing industry. NVivo was a program used to facilitate the coding and categorization of the data generated by the interviews. Triangulation methods were used to determine the reliability of the data from the interviews.

Section 2: The Project

Introduction

Section two provided the reader with a review of the purpose statement for the research. Information on food and meat processing was provided to better understand the importance of the management of project life cycles for this type of processing. In order to meet consumer demands and provide the deliverables expected by stakeholders, projects in consumer ready meat processing needed to be managed effectively and efficiently. When project life cycles were compressed due to multifactorial events, opportunities for the mismanagement of projects led to different end results.

The role of the researcher, who also functioned as a Participant Observer to each case, was pivotal to collecting the data. Participants were active in each case study, along with the researcher. Different facility locations and companies provided more diversity to the data collection. To collect the data, interviews were conducted with the participants. Audiotaping the subjects allowed the researcher to use the NVivo program to categorize responses to questions. This study allowed the researcher to apply the Actor-Network-Theory and Cause-and-Effect Theory to each case study. The multiple case study approach was used to explore the relationship or correlation between each case.

Purpose Statement

The purpose of this qualitative study was to explore the effects that mismanaged condensed project life cycles had on U.S. consumer ready meat processing projects. The focus of this research was on the effects generated by the actors and their actions involved in the project process on the deliverables. Exploring the effects of mismanaged condensed project life cycles provided insight to apply various tools of project management. Actor-Network-Theory was applied to the complex relationships observed in configuration of a project management plan (Ruiz-Martin & Poza, 2015). Organizational cultures and the storytelling of projects were important to present situations and clues to future sources of problems (Farzaneh & Shamizanjani, 2014).

The U.S. meat industry had been comprised of highly concentrated production, which contributed to internal, external, and social issues for organizations. Corporate expansion of meat industry companies had instigated internal strife (Belk, Woerner, Delmore, Tatum, Yang, & Sofos, 2014). Internal issues have contributed to the effects on project management and the need to understand the dynamics involved with these issues. External factors have shaped the project life cycle, stakeholders, and the measurable results.

Role of the Researcher

The role of the case researcher included: teacher, Participant Observer, interviewer, interpreter, evaluators, and others (Stake, 1995). In each case, the researcher was a Participant Observer in varying degrees. The role of Participant Observer allowed the researcher to secure insider views and subjective data (Creswell, 2013). In several cases, the researcher's function

had been as the project manager or project engineer. Each case allowed the researcher access to valuable data of the project and other participants. By being a Participant Observer, the researcher's influence on others was minimized.

Another role played by the researcher was interviewer. Although data was collected by participation and observation, the information only presented the perceptions of the researcher. Each participant was interviewed related to each case. Continual process improvements in meat processing facilities had contributed to the initiation of projects with varying gestation periods. In some cases, the project may have started several years prior to the interview, but completed its closing process was near the time of the interview.

Additionally, the researcher played the role of interpreter. As the interpreter, the researcher identified new connections to a recognized problem (Stake, 1995). The insights learned and interpreted led to proposed connections between events and social forces (Seidman, 2013). The researcher was intricately involved in the context of the study and had proven essential to its understanding (Collins & Cooper, 2014). Being involved with the case also engaged the researcher as a reviewer of associated case documents.

The researcher reviewed documents to corroborate and augment data collected from interviews (Yin, 2014). In the role of a document reviewer, the researcher had to be sensitive to possible biases in some of the reported data (Yin, 2012). Document analysis by the researcher led to additional meanings of the cases (Stake, 1995).

Participants

Defining Participants

Participants were selected based on their involvement with specific projects and length of experience in the meat processing industry. Each participant needed to have held a stakeholder role in each respective case. Purposeful sampling was used to select participants because they had a unique understanding of the case (Creswell, 2013). The researcher had previous contact with the participants and obtained a cursory understanding of their experience in the meat processing industry.

Procedure for Gaining Access

Gaining access to the participants did not present a difficult challenge. Participants were current or previous colleagues in the meat processing industry. There were three contact categories: current colleagues, previous colleagues, and equipment manufacturers. The major challenge the researcher encountered was gaining approval to use confidentially held information, even though the research protocol clearly defined and assured that no identities of individuals or organizations would be referenced by specific name.

Communication with all participants was performed in the following sequence: phone call, email, letter, and follow-up email for confirmation. The industry workers at different locations were contacted by phone and then informed they would be receiving an email from the researcher.

Previous colleagues were contacted via email, and then a follow-up phone call was utilized to further explain the study and to gauge interest in participation. The most recent

contact numbers were used to call each person. If a phone number was not available, contact with others in the meat industry network was sought to provide leads to a valid phone number.

Equipment manufacturers were contacted by phone, email, and letter. Specific contacts at each manufacturer were identified as the principal for each respective case. Some principals had moved to other companies, but those individuals were located and contacted by email and phone.

Establish Working Relationship

Participants in this study had previously been colleagues of the researcher during the events of each case. Relationships were developed during the engagement of the activities with each participant during the respective projects. Ongoing relationships continued through working environment and personal contact. To gain a higher level of comfort and confidence with the participants, the outline of the research was clearly defined in a one-on-one meeting with each participant. It was important to not only protect the relationships, which in some cases had been cultured for several decades, but also to provide a level of security that identities would not be compromised.

Measures for Ethical Protection

To protect the identity of each participant, coded names were assigned to each individual. A formal document presented to each participant detailed how the information and his/her identity would be protected. No specific company name would be provided in the published research. Discussion related to each case was not discussed or shared with other participants.

Each participant was allowed to review the transcripts of the interview and correct or elaborate on his/her responses to the questions. The transcript and related data was coded to insure no person could connect the information back to specific individuals. Recordings were secured in a lock box at a bank used by the researcher.

Research Method and Design

Method

This research was designed to explore the effects the mismanagement of condensed project life cycles had on projects' deliverables in consumer ready meat processing facilities. Qualitative research was selected as the method to understand participants' experiences and interactions (Pathak, Jena, & Kalra, 2013). It was critically important in this qualitative study to provide context and eliminate blind spots by having a researcher with lived experience (Devotta et al., 2016).

A qualitative research method was chosen as developments in knowledge translation have provided new possibilities for application of these methods (Clark & Sousa, 2015). To gain a deeper and better understanding of individual experiences, behaviors, and subsequent reactions to events, a qualitative approach was deemed appropriate (Berterö, 2015). For fast-moving consumer goods industry, such as grocery products, descriptive qualitative research was used (Agigi, Niemann, & Kotzé, 2016).

Although quantitative methods could have been applied and some researchers called for more application of a quantitative method, it was not selected for this study. Decision-making processes examined only from a quantitative perspective could not address the complexity of a problem (Gawlik, 2016). This research explored the management of projects and the effects of

mismanagement. Project management decision-making processes in only one study reflected quantitative methodologies (Muriana & Vizzini, 2017).

Furthermore, a solely quantitative study would not allow a fuller and deeper understanding of the cases to be reflected on and shared by the participants. A quantitative method had relied on historical data and accurate measurements about project risks (Elzamly & Hussin, 2016). For this research, qualitative data was used from other sources that included: documents, journals, and project metrics to support and validate the data.

Quantitative research methods posed several problems with this research approach. Quantitative methods would not have provided insights about the participants' motives, behaviors, and values when their relationships were explored (Karlsen, 2014). Quantitative research focused on the extent of causal variation, while this qualitative research focused on the process of the phenomenon (Maxwell, 2013). Quantitative research could not have provided the richest information on atypical or extreme cases (Flyvbjerg, 2006).

Another research method that was considered, but not used, was mixed methods. Case studies could have been used as a companion to other methods, thus the resulting research would have been termed as a mixed method (Yin, 2012). Mixed methods would have used qualitative analysis of the interviews and field notes to provide context to the quantitative data (Austin, McVittie, McCracken, Moxey, Moran, & White, 2015). Mixed methods required expertise, ample time, and money (Hossain, 2012). After carefully evaluating the extent to which mixed methods would have added to the research, the researcher determined a mixed methods approach would not have been a viable approach to this study.

Research Design

Case Study

Case study design was chosen because it addressed the *how* and *why* questions; moreover, case study design did not require control of behavioral events, but rather focused on a contemporary event (Yin, 2014). The contemporary event focused on the mismanagement of projects triggered by a condensed project life cycle. This event occurred in the U.S. meat industry that manufactured consumer ready processed meats. As previously noted, other sources of evidence were utilized for triangulation purposes. Documents played a corroborative role in case study research and augmented other sources (Yin, 2014).

Interviews. Interviews, documents, and project summaries provided data to craft a complete picture of each case. Participants were individuals who were intimately involved in various roles and stages of projects. Case studies offered a better way to explore and detail aspects of human psyche than other design tools (Dodes & Dodes, 2016). Therefore, interviews were customized to ensure reliability and to facilitate comparability between the interviewees (Göbel, Langen, Blumenthal, Teitscheid, & Ritter, 2015). Interview questions were presented in the same order for each participant as noted in Appendix A.

Documents. Project documents incorporated the initial project scope, budgets, and timelines. These information sources were coded to mask and protect potentially proprietary information related to companies, projects, or individuals. Initial project scopes included: return on investment (ROI), net present value (NPV), costs, and time-to-market (Shirazi, Kazemipoor, & Tavakkoli-Moghaddam, 2017). Project scopes were shown to influence the project design,

risk, and results (Fageha & Aibinu, 2016). In addition to the project scope document, the associated project budget was analyzed.

Project budget overruns have tended to be directly linked to human judgment (Litchenberg, 2016). It was necessary for the researcher to understand the method and process for project budget creation. A daunting obstacle for projects has long been the securing of capital (An, Woo, Cho, & Lee, 2017). A project budget can only estimate costs, though actual costs have been shown to be random and variable (Hu & Szmerekovsky, 2017). Initial cost estimates by the project promoter have resulted in dramatic increases to the approved budget (Andersen, Samset, & Welde, 2016). Concurrent to the budget development was the timeline for project completion.

Task completion times were critical for project management (Wang, Yang, & Zhao, 2017). Task times were important factors in project management and project completion, but task time also allowed for interpretation of events. One study reported information for projects had been erroneously conveyed by project estimations and status reporting (Green & Taylor, 2016). Results of such errors effected project deadlines.

Project deadlines varied. Certain projects had deadlines that were self-imposed, while others were imposed by customers, or were mutually agreed upon dates. Knowledge-intensive projects involved some type of cooperation with all parties and had to be completed in a specific time (Rahmani, Roels, & Karmarkar, 2017). Additional research suggested that the time needed to complete tasks had commonly been underestimated (Wiese, Buehler, & Griffin, 2016). Established project completion times compared to actual completion times was included in project summaries.

Project summaries. Organizations and stakeholders needed tangible product or data to insure the completed project met the initial scope. When a project was completed, a close out form was submitted to determine at what level the project was successfully completed (Ali & Nisar, 2016). Certain projects in this research study did not include formal closing forms. Project success or failure was conveyed by stakeholders and needed to be managed during the project closing phase (Biskupek, 2016). Stakeholders determined whether a project was a success or failure and then conveyed that determination through formal means, such as a post-project audit, contract acceptance, or continued use of equipment and processes. Informal acceptance of a project was verbal approval by stakeholders.

Both means reflected the research method of a case study to explore the participants' holistic views of projects. Case studies originate from human and social sciences and have been used for evaluation research (Creswell, 2013). The research design focused on participants engaged with projects to deliver results in U.S. meat processing facilities for consumer ready products. Other qualitative methods considered were: narrative, phenomenological, grounded theory, and ethnographic methods. Although valid research methods, these approaches did not fit the research design.

Qualitative Designs Not Used

Other qualitative designs were explored to determine applicability to the research questions and study. Although it was determined that case study would be the most appropriate design for the research problem and questions, rejection of the other designs needed to be eliminated by specific cause. A total of five qualitative approaches were considered, including: narrative, phenomenology, grounded theory, ethnography, and case study (Creswell, 2013).

Narrative

One qualitative method focused on storytelling (Saldaña, 2003). Narrative inquiry would have added depth to the interpretation of events (Kerwin-Boudreau & Butler-Kisber, 2016). The narrative approach focused on one or two individuals and would chronicle their experiences (Creswell, 2013). Narratives would have allowed the researcher to provide an interpretation of key episodes in order for the reader to gain experiential understanding of the cases (Stake, 1995). Although chronological events would be included in the research, narrative method would have been too restrictive for the number of actors participating.

Phenomenological

A phenomenological study would have approached the research as a concept and explored common meaning through the lived experiences of the participants (Creswell, 2013). Interviews were used to gain a better understanding the cases and not solely the lived experiences of the participants. The participants' experiences would have been analyzed as articulated expressions to explore essential meanings of human existence (Wertz, 2001).

Grounded Theory

Grounded Theory, if applied to this research, would have generated a theory shaped by the views of participants (Creswell, 2013). It was not the intent of the researcher to develop a theory with this research. Classic grounded theory could be used to explain a pattern of behavior (Glaser, 2014). The development of a theory would not have contributed to this research and, therefore, was not selected.

Ethnographic

Research questions were directed at the mismanagement of projects in the U.S. meat industry due to condensed project life cycles. An ethnographic research approach would have been to study an entire culture-sharing group (Creswell, 2013). In this interpretive approach, the research would have focused on defining the nature of the phenomenon (MacNeela, Doyle, O'Gorman, Ruane, & McGuire, 2015).

Design Appropriateness

Organizations producing consumer ready meat products were structured primarily in a functional or weak matrix hierarchy. These organizational structures provided the least amount of authority to project managers (PMBOK, 2013). Design of the research was appropriate because questions probed engagement of project management in the food industry. Functional and matrix organizations continued to present risks for the mismanagement of projects when the project life cycle was compressed. The research design needed to delve deeply into participants' engagement with the management of projects to develop an understanding of the holistic approach to address projects' life cycles.

Case study design allowed a variety of methods to be utilized for the data collection (Wilson, 2016). Various methods for gathering data in case study design were: interviews, direct observation, and participant observation (Van Der Linde & Steyn, 2016). Each project presented unique challenges for the participants, which directed the research to case study design.

Population and Sampling

Description and Relevance of Sample

Global food production and supply chains had expanded over the last several decades and were faced with increased pressures to deliver goods to markets in shorter periods of time. Consolidation of the global food industry, specifically meat proteins, contributed to a small number of organizations that controlled a majority of the global market. The relevance of the sample narrowed the focus from the global food industry to the U.S. food industry, and then was further segmented to just the U.S. meat industry. Finally, the sample was more rigidly confined to the consumer ready meat processing sector.

Selection of industry. A driver of the global food system has been the U.S. meat manufacturing sector. An increased awareness of the industry's growth had driven competition for land resources to produce livestock feed, with the goal to ultimately achieve future food security (van Zanten, Mollenhorst, Klootwijk, van Middelaar, & de Boer, 2016). Food production in the U.S. had been an integral part of the global food system (Dou, Ferguson, Galligan, Kelly, Finn, & Giegengack, 2016). Research in the area of project management in U.S. food manufacturing and consumer ready meat products has continued to be critical to the global economy. Selection of the U.S. consumer ready meat sector was based on familiarity, advanced technology, and connection to stakeholders (consumers).

The researcher had been employed in the U.S. meat industry and project management for 29 years at the time of the research. A familiarity with the meat industry provided a unique opportunity for the researcher to be a Participant Observer. Employment with global

organizations at various levels allowed the researcher rich access to a plethora of diverse projects, individuals, and companies.

Selection of companies. Selection of cases and participants was based on several factors. First, case selection was confined to the U.S. meat processing industry. Based on knowledge of the food and meat processing industries, the researcher selected three companies. The Participant Observer role allowed the researcher to select diverse companies based on size (determined by annual sales), ownership, organizational structure, and projects. Three companies were selected and identified for this research as Company A, Company B, and Company C.

Organizational ownership shaped the overall company culture, style, and structure, which influenced performance of projects (PMBOK, 2013). Information on the ownership structure was provided by annual reports and public information. The types of ownership of meat companies were further segmented into four groups: individual ownership, family ownership, other ownership, and foreign ownership (Náglová & Horáková, 2016). The organizational structure of each company was defined by the researcher and was based on working experience at the time of each project. All three companies were functionally based with varying degrees of management structure and organizational culture.

Selection of cases. Cases (projects) were selected based on complexity level, capital investment, project team, and time constraints. The researcher was advised to study projects based on small, medium, and large size projects (Jayaraman, 2016). The researcher was a Participant Observer, which permitted access to groups and data, and also generated perceived

reality from inside the cases (Yin, 2014). The various projects' original budgeted time for completion ranged from one week to 1.5 years.

A total of six projects was selected from the three companies as shown in Table 1. One project was selected from Company A. Project A1 had a budget of $5.2M and was confined to a single facility. One project was selected from Company B. Project B1 had a budget of $1.6M. Four projects were selected from Company C—three from one facility (Facility 1) and one from another facility (Facility 2). The three project budgets from Facility 1 were $4.5M (Project C1), $60K (Project C2), and $190K (Project C3). Project C4 from Facility 2 included a $14M budget.

Complexity of the projects was based on three main criteria: time, technology, and original budgets. A number for each criterion was assigned by the researcher, who had intimate knowledge of each project. The project rating was based on a 0-10 Likert Scale, with zero representing the minimum point of the scale and 10 positioned as the maximum. A cumulative score of the criterion would put the projects in context. A maximum score of 30 would have reflected an extremely challenging project, while a lower score would conversely show a project with less considerably risk.

Table 1
Case Selection

	A1	B1	C1	C2	C3	C4
Budget (Millions)	$5.20	$1.60	$4.50	$0.06	$0.19	$14.00
Original Time to Completion (weeks)	30	24	36	1	20	76
Technology (0-10)	8	7	6	2	6	6
Complexity (0-10)	7	7	6	2	4	7

Note. Data from Researcher

Criteria for Participants

Participants had been selected based on their involvement with the projects. Internal stakeholders had been actively engaged and directly involved with some aspect of the project (Fageha & Aibinu, 2016). Criteria for a participant to be selected were: internal stakeholder, external stakeholder, and personal actions that could impact the project. Participants were contacted by email and then a follow-up phone call. Upon initial agreement to participate, a confirmation letter was sent for further study explanation, review of the interview process, and the completion of a release form.

Internal stakeholders were employed by the organization(s) at the time of the project. Stakeholders had a strong correlation to critical success factors (CFS) of projects (Liang, Shen, & Guo, 2015). Some of these individuals were still employed by the organizations at the time of the interviews, while others had retired or moved to other organizations. Participants represented functional departments: operations, engineering, human resources, and environmental health & safety (EHS).

External stakeholders for this research were the equipment manufacturers supplying various products to each project. In some cases, the same equipment manufacturer was involved in multiple projects. A main contractor was considered and recognized as an important stakeholder (Bal, Bryde, Fearon, & Ochieng, 2013). Stakeholders have held different views of the food system performance and the challenges faced (Gamboa, Kovacic, Di Masso, Mingorría, Gomiero, Rivera-Ferré, & Giampietro, 2016).

Sampling Techniques

The sampling technique utilized the selective methods of purposive sampling. Selection of appropriate samples was subjective and relied on the logic and judgment of the researcher (Visser, van Biljon, & Jerselman, 2017). Purposive sampling was used by the researcher to understand in greater detail the posed issues (Setia, 2016). Subjects were selected based on interaction with the specific project.

Various groups of participants related to gender, age, and experiences were used to gain a greater depth of data (Jamshidi, Molazem, Sharif, Torabizadeh, & Najafi Kalyani, 2016). As a Participant Observer, the researcher was able to select various individuals engaged with each project. Certain projects provided more choices for participants, but the researcher limited the number of participants to delve deeper into each case.

Data Collection

Case study data was obtained through documents, archival records, interviews, direct-observation, participant-observation, or physical artifacts (Yin, 2014). This research used archival records, participant-observation, and interviews. Valuable insight was obtained by looking at cases from different perspectives (Peredaryenko & Krauss, 2013).

Description of the Instrument

The instrument used for this research was face-to-face interviews of project participants. Interviews were conducted with participants to obtain more details related to the cases (Terzieva & Morabito, 2016). A semi-structured interview was used, as all participants were asked the same questions in the same order. The structure of the instrument permitted a higher level of

discretion for the interviewer to include follow-up questions and for the interviewees to expand on answers.

Audio of the participants' interviews was captured using a Hewlett-Packard (HP) Pavilion laptop computer. Journal notes were captured by the researcher on a Day-Timer™ 2-Page-Per-Day Reference Planner. Archival records were generated utilizing Microsoft Word™ and Excel™ programs.

Questions helped the interviewees tell their stories while also being aligned with the research's purpose (Castillo-Montoya, 2016). Qualitative interviews allowed participants to consider how a phenomenon was perceived, experienced, and explained (Connelly & Peltzer, 2016). Recording the participants could have introduced the observer's paradox wherein the researcher contaminated the setting of the target interest (Hazel, 2016). To avoid interference, the smallest and least intrusive device was used to record the interview (Seidman, 2013).

The Instrument

The researcher needed to be experienced with the lived experiences of the participants, which helped to contextualize, communicate, and apply findings (Devotta et al., 2016). Concepts discussed during the interviews included the participants' actions, their interactions with others, and their perceptions of project complexity. A variety of concepts were observed, such as content analysis, constant comparison, and pattern matching (Ponelis, 2015). Social network analysis connected the participants' position within the network and then tied the network to social behavior influence (Bidart & Cacciuttolo, 2013). This concept correlated to the Actor-Network-Theory.

Journal notes captured by the Participant Observer measured the activities of the participants in each project. It was important to note body language because sometimes it was used to distract from key issues (Annink, 2017). Furthermore, the interviewer should be focused on the participants' expressions (Angel, 2013). Overall body language and nonverbal cues were captured by the researcher during the course of the interview.

Archival records measured the physical attributes of the projects. These attributes included: costs, time, original scope, and written communication between participants. Chronological events were recorded using a network mapping process.

Coding

The presence of themes emerged from the verbal data, which was coded for frequency of themes or concepts (Fernandes, Ward, & Araújo, 2015). Interview coding consisted of data condensation, drawing conclusions, and confirmed findings (Agarchand & Laishram, 2017). Computer-assisted qualitative data analysis software (CAQDAS), such as NVivo, allowed the researcher to manage and reconfigure data, but it was still the researcher's responsibility to code (Saldaña, 2016). One research study used QSR-NVivo to code interviews that had been transcribed verbatim (Konstantinou, 2015). Coding with NVivo provided a unique advantage of data categories (Woods, Paulus, Atkins, & Macklin, 2016).

The type of project was rated on complexity by the researcher and individual participants. It was important to understand the project based on the perceptions of complexity, such as project length (time) and budget (capital investment). Project duration and size were dependent on project type (Kral & Mildeova, 2012). The subjective view of the projects was used to code

the complexity of the project and allowed the researcher to compare data across multiple participants.

Reliability and Validity of the Interview Process and Questions

In order for the chosen research instrument and the data collection to be considered of value, the instrument had to be valid and reliable (Dikko, 2016). When further coding was longer feasible, data saturation validated the research (Fusch & Ness, 2015). The data collection method, such as interviews, provided results that reached data saturation (Fusch & Ness, 2015). No processes were needed to complete the instrument by participants.

To increase reliability, information was maintained in a chain of evidence (Yin, 2014). Journals and archival records were chronicled and cross-referenced. The researcher added more raters for increased interrater reliability and more items (projects) for increased internal consistency reliability (Ellis, 2013). An Excel database was used, which increased the reliability of the case study (Yin, 2014). The database was a word table constructed from the interviews, journals, and documents, and then cross referenced to a numeric table of the projects' quantifiable aspects.

Internal validity was determined in the data analysis phase by conducting pattern matching, explanation building, rival explanations, and logic models (Yin, 2014). The pattern matching technique was used to validate the links between research data (Almutairi, Gardner, & McCarthy, 2014). Comparisons and matching between the participants of each project added further validity to the research.

Pattern matching enabled explanation building that increased the research validity. As the data was evaluated, exploratory propositions were revised. Gradual explanation building was

refined to the set of ideas presented by the data (Yin, 2014). Data collected from the interviews continued to build on the research. This continuum of events and data collection led the researcher to utilize interrupted time series analysis (ITSA). A crossover design was more robust and allowed more comparisons to the observed or perceived intervention (Linden, 2017).

A logic model was incorporated, which enhanced the validity of the study. Logic models were used to show the causal relationship between an intervention and its outcome (Yin, 2013). Logic models were similar to pattern matching, but with the constriction of time sequenced cause-and-effect (Yin, 2014). The number of selected causes and subsequent effects on the project were affected by participants' judgments (Kim, Markman, & Kim, 2016).

Information from a number of resources and a range of investigator perspectives provided source and investigator triangulation (Johnson, Ohara, Hirst, Weyman, Turner, Mason, & Siriwarden, 2017). Multiple data sources were used for data triangulation to increase the validity of the research (Hussein, 2015). Several sources were presented for the researcher to collect and determine validity and use in this study. The triangulation approach used required the researcher to clearly define the objective and subjective data collected (Park, Chun, & Lee, 2016).

Member check, or respondent validation, allowed the participants to comment on the content accuracy of the participants' experiences, emotions, thoughts, and analysis (Koelsch, 2013). Findings in one study suggested one strategy to improve credibility was member checks (Dennis, 2014). Member checking provided feedback from the participants, collected data, and interpretations to minimize risk of misinterpretation (Lub, 2015).

The researcher had taken copious field notes throughout each project's duration. Personal notes were captured in a Day-Timer™ 2-Page-Per-Day Reference Planner. Notes taken by the Participant Observer reflected activities, perceptions, and emotions.

It was helpful for the researcher to document instances of visceral effects of strong emotions or sensation when conducting observations (Maharaj, 2016). Being an insider allowed the researcher to experience the phenomena in the same manner as the participants (Roulet, Gill, Stenger, & Gill, 2017). It was imperative that the Participant Observer had minimized his influence in each case, depending on the specific role played in the project(s).

Another available tool used for triangulation purposes utilized project documentation. This documentation was collected by the researcher over the course of each project. Information was condensed from the company(s) forms to insure confidentiality of other data not intended for or included in this research. Examples of the data excluded was officers' names, signatures, and supporting documentation confidential to the company(s).

Data Comprising the Study

Data generated by the study included audio and physical notes from each interview. Processed audio data was disseminated by NVivo and Excel programs and then saved on a zip drive. Field notes were processed by the NVivo program and data categorized. Additional documents supporting the project included: capital expenditure requests (CERs), project expenditure requests (PERs), capital investment requests (CIRs), post-audit forms, supplemental requests, purchase orders, change orders, and equipment quotes.

The population base examined six projects with a minimum of two participants per project. Several participants were involved with multiple projects. The Participant Observer was involved with all six projects.

Projects were selected based on a variety of complexities, the involvement of project managers, and the diversity of organizational structures. Participants in the interviews subjectively classified the projects based on their experiences and perspectives of each project. This data was collected and compared to the classifications shared by other participants.

Strategies to Address Threats to Validity, Internal Consistency

One threat to the internal consistency of the data collection was the emotional engagement of each participant to the project(s). Positive and negative emotions, and their respective intensity levels, registered during events with different types of cognitive elaboration (Smorti & Fioretti, 2016). Emotions were addressed by the researcher during the interviews with Emotional Intelligence (EI). Emotional intelligence (EI) strengthened the ability of the researcher to listen and react appropriately during interviews (Collins & Cooper, 2014).

To address the research validity, each participant rated the complexity of the project with which they were involved. The Analytic Hierarchy Process (AHP) was used when individuals subjectively determined the importance of ranking indexes (Hadad, Keren, & Laslo, 2016). As the participants were interviewed after the project(s) had been completed, two scales of complexity were used.

The pre-project complexity sought to allow the interviewee to rate the perceived complexity of the project at the initial stage. The post-project complexity allowed the

interviewee to rate the actual or experienced complexity of the project after its completion. Results from pre- and post-project scores were compared to the Participant Observer's scores.

Data Organization Techniques

Keeping Track of Data

Data was organized using an Excel spreadsheet and matrix. Each project researched had data collected and organized using a separate tab of an Excel file. In the defined file, one tab was a summary of the collective tabs (projects) in which each project's data was cross-referenced. Once the Excel files and matrices were designed, data was input as it was collected. The summary file was reviewed after each project's data was uploaded. The use of Excel provided a manageable platform to analyze the data through applications of data manipulation.

The raw data was provided to the respective participants by the researcher. Hard copy data was preserved in a locked filing cabinet with access available only by the researcher. The electronic data resided only on a removable zip drive and remained locked in the same filing cabinet. The HP Pavilion laptop computer that stored the collected data was erased.

Data was kept in three secured locations. First, hard copies of journals and notes were kept in the possession of the researcher when in the field. During analysis of the data, hard copies of the data were in the physical control of the researcher. When not being analyzed or referenced, the data was stored in a locked, five-drawer file cabinet in the office of the researcher.

Audio recordings, NVivo, Excel, and Word programs were loaded on the researcher's Hewlett Packard (HP) Pavilion laptop computer. The computer was secured with the researcher

during the interview process and returned to the office when each interview was completed. Data was located on a separate file on the computer's hard drive. Access to the drive required a secure password to open the files.

All data was backed up on a separate hard drive and zip drive. Both devices were password-protected. When data was not downloaded for backup purposes, both devices were locked in the five-drawer file cabinet in the office of the researcher.

Data Analysis Technique

Data was collected from in-depth interviews. Yin (2014) referenced pattern matching, time series, and logic models as analysis methods for the data collected in this research. Five research questions posed to participants generated part of the categories listed for each project's matrix. A total of two matrices were used for analysis of the data.

Qualitative data was collected from interviews and journals, then coded to explore potential matching patterns. Analysis was dependent on codes to categorize the data (Blair, 2016). In addition to coding, network mapping and contextual relationships were used for analysis of the data (Maxwell, 2013).

The purpose of coding the data was to build confidence in the relationship between the causal map to the data sources (Eker & Zimmerman, 2016). Variance was obtained through comparative case studies, which identified trigger mechanisms (Gläser & Laudel, 2013). It was these triggers, identified through the coding of interviews, which allowed further detail to the interruption in the time series.

It was necessary to evaluate other data categories that defined aspects of each project(s). Other data consisted of project categories, such as capital expenditures, time, organizational

structure, original budget, original scheduled finished date, scope of project, and number of project changes (if any).

Analysis of data addressed the following research questions:

RQ_1: What waste was incurred in a project due to mismanagement of the project life cycle?

RQ_2: What impact did expert judgment have on management decisions of the project life cycle?

RQ_3: Could a project's shortened life cycle have provided benefits?

RQ_4: How did the interpersonal skills of a project manager affect the management of a project life cycle?

RQ_5: How were project deliverables impacted by a shortened project life cycle?

Data analysis addressed: RQ1 – Waste; RQ2 – Mismanagement; RQ3 – Benefits; RQ4 – Scope and Deliverables; and RQ5 – Deliverables and Impact. It was important to analyze all forms of data, which provided triangulation.

Data Analysis

The data presented a unique opportunity for the researcher to apply various methods for analysis. Analysis of data utilized two techniques: pattern matching for interviews, and time series data tied to interruptions of the project life cycle. Data was shown to be interconnected between the qualitative primary data obtained during the participants' interviews and the secondary data culled from the other sources of the projects.

Pattern Matching

Pattern matching was used for the coded words derived from individual interviews. Selection of words involved a number of iterations and judgments by the researcher (Evans, 2014). The coding process allowed the researcher to observe and determine the emergence of

patterns and the development of themes (Masaryk, 2014). These themes were developed in conjunction with data from the time series.

Time Series

The development of a rich explanation for complex time series strengthened the case study research (Yin, 2014). Time series were classified by encoded meaningful patterns that were compared to each other (Fulcher & Jones, 2014). These time series events were correlated to triggers, which caused or initiated the shortened life cycles of projects.

Data Presentation

Classifications sheets produced from NVivo were exported to Excel spreadsheets, which granted the researcher the opportunity to convert data into meaningful charts (Snelson, 2016). This data was then linked to the summary of individual project participants and the coded data from interviews. Comparisons were drawn between the events that were identified as triggers to the shortened project life cycle.

Interpretation, Explanation, and Underlying Conceptual Framework

An event or series of events occurred that effected the project life cycle. The phenomenon was identified by various participants in each case depending on their perspectives, exposures, or understanding of the project(s). Data categorized, analyzed, and interpreted had indicated a cause-and-effect phenomenon, which influenced the associations described by Actor-Network-Theory (ANT). Temporal networks linked entities that also encoded the time of interaction (Holme, 2015). Roles of the entities within the Actor-Network were challenged, resisted, undermined, or destroyed (Jackson, 2015). Any entity could have resisted his/her role or betray his/her role (Jackson, 2015).

Reliability and Validity

A qualitative study is only as good as the data collected (Hurst, Arulogun, Owolabi, Akinyemi, Uvere, Warth, & Ovbiagele, 2015). Accuracy and reliability of scoring had been noted to be influenced by noise (Sattler, McKnight, Naney, & Mathis, 2015). For elimination of noise, the researcher took actions to clearly define the scope, meaning, research, and questions posed to the interviewees. Methodology choice regarded cultural and context variables to enable detection of certain events or phenomena (Abbaszadeh, 2015).

This research explored phenomena of condensed project life cycles. Case study methodology resulted in semi-structured interviews to collect in-depth data on each project. One researcher noted naïve researchers could perform more reliably than clinicians (Nordgaard, Sass, & Parnas, 2013). Information provided by the interviewees needed to be evaluated for validity and reliability (Dorussen, Lenz, & Blavoukos, 2005). Research quality extended to satisfy validity and meet reliability criteria for rigor (Sin, 2010).

Reliability

Reliability referenced the study's ability to replicate processes and results (Abbaszadeh, 2015). Data collected needed to be assessed and replicated through the tools of the research methodology (Ergene, Yazıcı, & Delice, 2016). The research tool used was interviews, which could be replicated by others. Since circumstances around each research case were difficult to replicate, reliability was similarly difficult to demonstrate (Naumes & Naumes, 2012). To improve reliability, case study protocols and a developed database were carefully utilized (Yin 2014).

Audit trail. To improve the soundness of the study, an audit trail was created to ensure reliability with literature control and synthesis of the findings (Behjati, 2017). An audit trail communicated the process of the research, so the work could be examined (Frost & Kinmond, 2012). Audit trails helped implement process checks, elaborated on the process rationale, and provided the reader with insights about how data was linked from A to B to C (Guest, MacQueen, & Namey, 2012).

Interpretive awareness. The researcher bracketed his preconceptions of the projects to acknowledge and address the researcher's interpretative awareness (Sin, 2010). Improving reliability required the researcher to follow the research process and adhere to the interview format. Clearly practicing interpretative awareness by the researcher and then documenting the process allowed readers to assess the reliability of the findings (Sin, 2010).

Standardization. Standardization of the interview greatly enhanced reliability (Platt, 2012). In addition to standardized interview questions and process, the researcher as Participant Observer distanced himself from the project participants. To prevent sidestepping rules of qualitative reliability, researchers must distance themselves from those who are being studied (Gans, 2010). Improved reliability was demonstrated as the researcher did not have any current employment ties to any company or participant included in the study.

Coding. Coding allowed for the development and application of assigned units to the meanings of the categories (Schreier, 2014). In qualitative data analysis, a simplified coding frame achieved higher reliability (Sweeney, Greenwood, Williams, Wykes, & Rose, 2013). This research used coding based on the researcher's deep experience and understanding of the industry and project management. Although a simplified coding schedule may increase

reliability, it could also reduce the richness of the insights gained from each interview (Morse, 1997).

Validity

Construct validity. Three tactics for increased construct validity were used in this case study: multiple sources of evidence, chain of evidence, and review by key informants (Yin, 2014). Evidence was collected from interviews, journals, and archival records. The chain of evidence was presented in the accounts of events described by the interviewees and archival records. Reviews of the interview questions was conducted with other professionals in the engineering area of the food industry.

Internal validity. Internal validity was addressed using the analysis tactics of pattern matching (Yin, 2014). Internal validity measures required clusters of data points that shared most of the attributes in each case (Oszust & Kostka, 2015). Each project (case) was examined and developed for specific word tables, which added to the multi-case study. Clusters of data points were determined by the researcher and the NVivo program, which generated common word clusters derived from the interviews.

External validity. Knowing if the case study findings could be generalized was addressed by using "how" and "why" questions for the interviews (Yin, 2014). Case studies followed linear and iterative processes to compare data within cases and between cases for validity (Duxbury, 2012). The authenticity of the interviewees' responses led the researcher to have confidence in the data's validity (Siedman, 2013). Triangulation used multiple and different sources to provide validity to the findings (Creswell, 2013). Utilizing these data

sources and the incorporated triangulation processes, which was necessary for the case study method (Duxbury, 2012).

Transition and Summary

This chapter provided the research study methodology and theories applied to the problem of the mismanagement of shortened life cycles of projects in the U.S. consumer ready meat processing industry. The research method and design were developed to capture rich data from the participants of each project(s). Using interview methods allowed the researcher to gain a deeper understanding of the interactions that each participant experienced.

Sampling was purposive for selection of unique cases and included participants from three different companies in varying geographical areas. The collection of the interviews was recorded as a best practice that allowed the researcher more latitude to review and code the information. Other documents examined permitted triangulation to be engaged. NVivo and Excel software programs provided platforms to assist the researcher in analysis of the data.

The next chapter will present the findings of the research. Analysis of the data will show various patterns and relationships that were recognized. The summary of data will be applied to the research questions to provide answers and direction for application to the problem of the mismanagement of shortened life cycles of projects in the U.S. consumer ready meat processing industry. Recommendations for action and further study will be included in the following chapter. Finally, there will be the application of this research to the Biblical foundation and a reflection on the experiences of the researcher and participants.

Section 3 – Presentation of the Findings

Introduction

This section explores the effects the mismanagement of shortened life cycles had on six unique projects in the U.S. consumer ready meat processing industry. Various projects and participants in this industry were selected to examine the diversity of projects, stakeholders, and effects of management decisions on deliverables. This section presents the overview of the study and the findings from the research. Data shows the patterns and relationships disseminated from the interviews to support the Actor-Network-Theory (ANT) framework. In this section, the applications to professional practices and the recommendations for action are addressed. Finally, recommendations for further study, reflections, and a summary will conclude this section.

Overview of the Study

This study utilized one-on-one interviews of participants involved with projects in the U.S. meat industry. A total of six participants involved with six different projects formed the basis of the selected sample group. A Participant Observer was engaged with each of the six projects, which provided access to the participants, organizations, and artifacts.

Projects ranged in budgetary costs from $60K to $14M and were comprised of varying degrees of complexity and technology. The locations of the projects spanned three regions of the United States: West Coast, Midwest, and Midsouth. A total of four states and four facilities were the destination for the final project installations, while one facility served as the site for three projects.

Potential participants were contacted by three outreach methods: email, phone, and letter. The individuals who chose to participate were provided with the overview of the project, approved Institutional Review Board (IRB) protocol, and the interview questions (Appendix A). A mutual time for the interview was established by the interviewer and interviewee.

Each interview started with an overview of the proposed study and its importance to the industry. A review of the project to be discussed was presented to the interviewee to refresh the memory and encourage the participant to focus on the events of that particular project(s). To insure confidentiality, the projects, company, and individuals were coded. The three companies were coded A, B, and C. Projects were denoted with the combination of letters and numbers: A1, B1, C1, C2, C3, C4. Participants were coded 01, 02, 03, 05, 07, 09 and the Participant Observer.

This study employed multiple cases, participants, locations, and project complexities to capture a wide spectrum of projects typically found in the U.S. consumer ready meat processing industry. The participants' experiences in project management and the meat processing industry ranged from five years to 42 years, with an average of 23 years. At the start of the interview, the participant was made aware that the session would be recorded in order to allow the researcher to analyze the data provided.

Projects were vehicles in which companies advanced their strategic objectives. Effective methods to insure projects maximized the most benefit to stakeholders had been defined by the collective stages in the project life cycle as recommended in the Project Management Book of Knowledge (PMBOK) (Project Management Institute, 2013). Projects in the consumer ready U.S. meat industry have been ongoing to meet the needs of diverse consumer groups.

The speed with which consumers want new products had pressured meat processors to condense the project life cycle. This research explored the causes and effects that resulted when certain events disrupted the project life cycle. Being able to identify and understand the cause-and-effect that occurred in the project life cycle provided benefits to the processors, customers, consumers, and the entire supply chain.

Results indicated customers (consumers) were the drivers of the project with a desire to have projects completed more rapidly than realistically possible. Certain projects that involved greater complexity resulted in increased waste and missed deliverables because of a compressed project life cycle. Other projects, while less complex, demonstrated benefits from a compressed project life cycle. Additionally, projects that were unable to have their life cycles compressed resulted in expected deliverables.

In all cases, there were underlying themes of communication channels, Actor-Network- Theory (ANT), cause-and-effect, and project manager interpersonal skills. Project manager skills and interactions with stakeholders were a noted pattern in all projects. The effects of the management skills were observed to be either negative or positive in the respective cases.

Presentation of the Findings

A total of six participants, one Participant Observer, and six projects comprised this research. The presentation of each project began with an overview to familiarize the reader with the original project scope. Following the projects' overviews, each project's findings were presented to capture the data from respective participants.

Overview – Project A1

Project A1 was initiated by the customer, a global retailer, with the purpose to reduce wasted product caused by the production facility's mislabeling and mispackaging of case ready product. A significant amount of wasted product was generated as the global retailer had based store sales on specific stock keeping units (SKUs) and volumes of a unique product mix. When mislabeled or mispackaged product was shipped and received, the entire supply chain was compromised. Weekly reports reflected an increased frustration on the part of the customer, which demanded action from the producer.

The project scope was developed by the processing automation and technology team. The project scope was to develop a process and method to eliminate mispacks and mislabeled products, to eliminate packaging waste, and to eliminate non-value-added labor. A structured process was used on projects to insure all stakeholders had input and finalized the scope.

Submission of the process design and budget needed to be approved by multiple department heads, company executives, and a finance committee.

Overview – Project B1

This project was initiated by the customer, a global retailer, to secure a processor, which could meet the company's standards and production volumes for their West Coast customers. The processor under consideration had a production facility that was not capable of meeting the volume needs of the customer; therefore, a project was developed to increase capacity. The project scope was developed by the project manager and approved by the senior management of the corporation.

The project scope was constricted by the facility's physical footprint and the fact that it was a leased building. Corporate ownership did not want to spend capital on a facility it did not own; therefore, the scope of the expansion was limited to capital equipment and machinery that could be relocated at a later date. The customer did not and does not sign any type of contract with meat suppliers. Without a signed contract, the ownership was reluctant to extend resources for a project that may not result in business if the project failed.

Overview – Project C1

This project was initiated by the processing company who desired to secure the business of producing cooked sausage patties and sausage links for consumer and hospitality businesses. The project included a capital investment of a building expansion, infrastructure, and equipment. Designs of the production lines were based on information from internal subject matter experts (SMEs) referenced as the processing group. In coordination with the engineering group, the

processing group and plant operations group developed two processing lines for the sausage products.

Installation of the equipment required third-party vendors to supply utilities to various pieces of equipment. Several equipment vendors needed to coordinate their work to install the equipment and tie the processing lines together. The project manager at the time of the final installation was removed from the project because of conflicts with personnel and a failure to meet the original project scope. The Participant Observer was then assigned to be the project manager. SMEs then created changes to the project to meet the deliverables of the project scope. Changes were frequent and costly.

Overview – Project C2

This project was requested by the customer, an international distributor of food and other goods. The current process was to formulate, cook, and freeze meatballs for the customer. In this process, a number of quality checks were performed, along with metal detection. To further enhance the process, the customer required the manufacturing process to include in-line x-ray detection to identify and automatically remove any product that may contain a foreign object or anomaly.

The project was assigned to the Participant Observer. A new technology tool was used in the process, x-ray detection. Although x-ray detection had been a proven technology in other food operations, it had never been used in this application or with this specific product. There was a slight amount of trepidation from the operations group regarding the x-ray use in the process. The project was assigned to the project manager to design and implement the process

and all associated equipment. Working with the equipment vendors and operations personnel for approved layout was a challenge and time consuming.

Overview – Project C3

The project started with a request from the customer, a national meatball retailer, to the corporate sales account manager. The account manager contacted the Vice President of Engineering and outlined the request from the customer. There was no direct interaction between the customer and the Vice President of Engineering. The Vice President of Engineering contacted the project manager, the Participant Observer, on a Thursday and informed him the project needed to be operational in one week.

Meatballs were not being formed properly and were connected to each other during the cooking process. This error in the cooking process was causing loss of product and wasted packaging, materials, and utilities. Additionally, the customers would be on-site to approve the new process. If approval was not granted, the processor would lose the account by failing to meet the needs of the customer.

In short time, the project manager had to secure a piece of equipment to roll, separate, and apply moisture to the meatballs. This equipment was typically custom-built by a limited number of manufacturers. A reliable equipment manufacturer was contacted on the same Thursday when the initial request was made. A physical tour of the spare equipment inventory by the project manager and the general manager of the equipment company identified a potentially usable piece of equipment.

Overview – Project C4

This project started with the engagement between the sales group and a potential customer, an international soup manufacturer. The customer was looking for another supplier of cooked, diced, and frozen chicken cubes, which would be used for multiple further products in the customer's product portfolio. The sales group coordinated with the processing group and the engineering group to manage the project. The Participant Observer was assigned as the project manager.

Direct engagement with the customer was only performed by one individual from the processing group. All information was assimilated and dispersed to other groups through this individual. Other groups were working on different parts of the process, such as research and development (R&D), operations, logistics, and sales.

The project was being designed as equipment was ordered. The longest lead time of the equipment was 11 months; therefore, certain designs had to be completed since the equipment dictated other processes. The building to be used for the new process had to be completely gutted and renovated to accommodate a food production process. Other areas of the building needed to be operational and producing food products, while the new processing line was simultaneously being installed.

Conclusions to Research Questions

RQ_1: What waste was incurred in a project due to the mismanagement of the project life cycle?

Various areas of waste were identified in all projects in this research. Most projects were initiated to reduce or eliminate some type of waste in the current process. During the project life

cycle of some projects, data reflected other wastes were generated due to the type of management of the project.

Project A1. Data showed this project deviated little from the original scope in time, budget, and quality. Waste was described as personnel time. The personnel time was identified by Participant 02 who suggested that a lack of timely decisions by management caused a loss of productive time by the project team and the third-party vendors. Mismanagement was classified as delayed decisions by controlling stakeholders. Frustration was noted in the inflection of the speech patterns of the participant when Participant 02 described delayed decisions by management. Participant 02 cleared his throat and with a nervous laugh stated, "Um, in any project there seems to be a delay in decision making, which can be wasted time."

Participant 02 noted the increased stress placed on the project team with each delayed decision. Participant 02 explained, "It did have stressful points when, um, ah, especially installation, delivery, trying to get the contractor, OEM to meet deadlines." The time required to complete the project did not change, although the customer had requested the project to be completed sooner than promised.

Waste in materials was also noted by participants during the installation and testing phases of the project. "But, I don't consider R&D and testing waste in a project," added Participant 02. "Less waste could have been realized if decisions had been made in a timely manner," noted the Participant Observer. Participant 02 added, "Ah, there was internal politics, uh that were kinda a waste of time."

Project B1. Data collected from the participants reflected little deviation of the project in terms of original scope. Waste was described as labor related to turnover and management of

the project from a corporate perspective. Participant 01 claimed, “The lack of support and communication from the corporate office forced the facility personnel to assume some decision-making responsibilities.” “Not having full authority to make all necessary decisions placed stress on the personnel involved,” restated the Participant Observer.

Stress on the personnel to finish the project was an identified factor highlighted by Participant 01“as the leading cause of high turnover rate. It was indicated that if the project failed, the production facility would close, and everyone would lose their job. This level of stress only increased as the communication between the corporate offices and facility was limited.”

Participant 01 further stated, “We felt as though they we were isolated and less worthy of corporate attention or resources.” “Emotions ran high as Participant 01 noted frustration with the corporate responses to resources such as personnel,” offered the Participant Observer. Participant 01 then stated, “…There was a lot of confusion and little support from corporate, which placed more stress on our plant personnel.” But, on the other hand, the Participant Observer identified, “The lack of corporate engagement [was] a positive aspect for the project’s success. Wasted time waiting for decisions by a non-engaged corporate management was eliminated.”

Project C1. Responses from Participant 03, Participant 05, Participant 07, and Participant 09 identified significant waste of materials, time, and labor due to mismanagement of the project. Equipment was installed only to be removed within a six-month period. Participant 03 noted in response to a question, “As you and I both know, in this particular project, there was equipment put in place that within six months was taken out because someone made a mistake.”

Another expensive piece of equipment was installed and operational for two hours before being removed. While explaining this equipment removal, Participant 03 wryly smiled and then exclaimed, "There were just so many things, and we really didn't have a good handle on it. Yes, there was significant monetary loss on this project." Another participant agreed. "A lot of waste. Towards the middle of that project, 'let's try this, let's try this. It was upwards of a million dollars wasted," frustratingly explained Participant 07

For this production line, equipment that was originally installed was then removed and scrapped. The scrapped equipment, according to Participant 05, equated to wasted time, labor, installation and removal costs, and caused significant interruptions in the production schedule. Participant 05 stated, "There was an attempt to install a transfer between two spirals…and that was something that was expensive and only tried for a short period of time. Something like that was one-of-a-kind and a total waste, labor and material." Such disruptions created emotions of uneasiness and stress.

The Participant Observer made a note on this project while observing a meeting with the participants. The Participant Observer logged, "Unrealistic time lines dictated by corporate stakeholders seemed to add stress, frustration, and anger to individuals." Participant 03 stated, "Well, I think in my personal experiences is that ownership, regardless of who it may be, has unrealistic expectations of a true start date regardless of any project. You can work, and work, and work, establishing the scope of the project, and we've all come to the decision that this is what we are going to do, but I still want you to get it done by the original start time…that doesn't change." Participant 03 concluded, "Then there is always the aftermath that you haven't met the expectations because the date hasn't moved."

Participant 09 elaborated, “Wasted time having meetings that produced no decisions added to frustrations on this project.” The Participant Observer noted, “Members started not attending meetings or when they did, little communication was exchanged between the parties. It seemed that there were two distinct groups, the facility and corporate.” Participant 09 went on to state, “Selected corporate involvement added to delays, changes, and costs for this project.”

Project C2. Little waste caused by mismanagement was identified with this project. The customer driving the project pushed for sooner installation dates, but compression of the timeframe was dictated by the arrival of x-ray equipment from Japan. To expedite arrival of the equipment, a premium price was paid for air shipment of the cargo. This management decision represented wasted money, but Participant 09 stated, “It was a balance between cost and time.”

Although the x-ray technology was not new, its application in the facility was new to the personnel. Participant 03 noted, “We never had x-ray technology in this facility, but there seemed to be a lot of experience [within the company] with that [technology]. But, new equipment, new technology, lends itself to specific issues when you put it on line to operate.” “I don’t think there were any issues with the system, it went really well,” claimed Participant 05.

Project members did not know how the product would react traveling through the process and did not have enough time to test the product offline. At the start up, production line workers stated to the Participant Observer that they were nervous and had high anxiety levels not knowing what would occur with full production. “What are those little idiosyncrasies that you are going to run into [in] volumes, [and] product flows,” stated Participant 03.

Minimal engagement from the operations personnel did not help ease the anxiety. The Participant Observer felt the facility personnel was waiting for the process to fail as a reason to react for not being involved with the project. Participant 07 stated he thought the project was a bad hand off between the project team and operations. Time condensation of the project could have contributed to neglecting the process needed for an effective transfer.

Project C3. The project was a subset of a larger project. Participant 03 stated, "It's hard to say how this project got started. It was going to be a multifunctional line, capable of doing a variety of products…um, ingenious to start with, but what looks good on paper doesn't always" function that well. As the larger project was managed, one aspect was overlooked. Therefore, when the customer was traveling to observe and approve the final process, this aspect of the project remained overlooked.

To expedite the process, the project manager was given full authority to provide a viable solution. "That's one of those projects you like to see where you know what you want to do and there isn't a lot of different ways to do it, and it worked. It just worked," stated Participant 03.

The project manager was informed that functional equipment and a process needed to be operational in one week for the customer review and approval. "In these projects, there is less discussion involved, uh the expectations are still the same, you need it done yesterday, but you don't have to talk about it with 14 different people because there is only one way to go about it, and so, you can work autonomously with the vendor. It streamlines everything," noted Participant 03.

Waste in this process was identified as money since premium rates were applied to equipment manufacturers and installation crews to insure the equipment and system were

operational. "Lack of planning or oversight," as noted by Participant 03, "wasted money as the process could have been completed earlier if the project was managed better."

Project C4. The deadline of the project was set by senior management before the final process was developed, designed, or quoted. By holding the project team responsible for meeting the deadline, excessive waste occurred. "Participants 05, 07, and 09 were frustrated with the mandate to meet a certain date without knowing the unknowns," observed the Participant Observer. Processes and equipment were being developed and changed continually. Participant 05 noted, "…Some things, a couple of things, with that project weren't defined as it was new, one-of-a-kind for us at that time."

Participants 05, 07, and 09 stated that the more changes that took place during the later stages of the project, the more the project incurred in wasted time, labor, equipment, and money. "There were a lot of stages in this project," noted Participant 07. Some critical pieces of equipment did not arrive on time, and when replacement equipment arrived, it did not fit in the layout footprint. High costs for material and labor needed to modify the equipment added to the overall waste of the project.

"There was a learning curve, going back and forth with the customer," explained Participant 07. Increased waste and a condensed time frame to rectify mistakes added to the high levels of stress and frustration experienced by the participants. "There were at least four or five [scope change] revisions just on the front end of the project, which waste time, since the delivery date never changes," explained Participant 07.

Time was a premium waste factor as certain stages of the project were dependent on others to be complete before subsequent stages could be initiated. "Decisions were not made in a

timely manner as participants stated [that] the inability to communicate timely decisions created a snowball effect for the whole project," stated Participant 07.

Various categories of waste due to the mismanagement of project life cycles were identified by the participants of each project. The most significant waste was labor, which included loss of time due to scope changes. Additionally, waste reduction was related to the lack of commitment by project managers (Clinning & Marnewick, 2017). Projects A1, B1 and C2 only incurred waste at an acceptable level based on standard project start-up procedures. Projects C1 and C3 showed the highest amounts of waste, which correlated to the highest amounts of changes and condensation of the project life cycle. Productivity dynamics are inherent in projects, and reliable planning is important to managerial efficiency and waste reduction (Jeong, Chang, Son, & Yi, 2016).

RQ_2: What impact could expert judgment have on management decisions in the project life cycle?

Project A1. This project relied on multiple sources of expert judgement. The Subject Matter Experts (SMEs) existed internally to the processor and externally to the equipment supplier. Each SME provided expertise to the project manager and team to make decisions. Participant 02 stated, "The expertise of the vendor was critical to the selection process." SMEs functioned strategically as a vehicle to defer to expert decisions and eliminate wasted time to secure a layperson's opinion.

A high level of trust in the expert judgment of the SMEs facilitated quicker decisions from management. Participant 02 noted, "Trust was built with the team and drove innovation." The Participant Observer stated, "The project team relied on expert judgment of the third-party

vendors to insure the most applicable equipment and technology were utilized." Use of expert judgment allowed decisions to be made more rapidly and ownership of the decision was included as a deliverable for the vendor partner.

Project B1. "The project manager of this project had designed and installed other systems at competitors' facilities," noted Participant 01. The customer knew the project manager and the expert knowledge base he possessed. Management decisions were quick because the customer rarely questioned the process or the progress of the project. "Having the ability to make decisions at the facility level made the process move quickly," claimed the Participant Observer.

"There was no observation [of] a significant amount of time wasted on waiting for decisions," accounted the Participant Observer. As Participant 01 stated, "There was good interaction with the customer and decisions were made quickly." Little direction was provided from the corporate office on this project. The Participant Observer noted, "…That with little direction or oversight from the corporate office, making decisions based on expert judgment made the project move faster."

Project C1. This project presented a highly complex process that required SMEs. The project manager utilized a network of SMEs to rectify a number of project mistakes. With a number of moving pieces involved in the project, SMEs were deemed necessary for each piece of equipment in the process. As the Participant Observer noted, "It was critical to incorporate the expertise of the manufacturers so quicker decisions could be made. This often required conference calls with multiple participants to insure proper integration and handshakes between the various pieces of equipment."

Conversely, the previous project manager had discounted the expertise of the SMEs, which initiated a strain on the relationships. Additionally, SMEs in the operations group were not included by the original project manager, which led to some intense interactions. "Corporate expert judgment, and those who claimed to be experts, discounted the facility's expertise," claimed Participant 09.

Participant 03 took a deep breath and stated, "…Personally, it put me off a little bit from the standpoint that I've got all this experience with this line, and now I'm not being asked to participate. Um yeah, so I didn't take it personally, but it affected me mentally a little bit." According to Participant 07, "The project manager was not open to other ideas and that lead to delays and bad decisions."

Participant 09 claimed, "Internal SMEs influenced the project team to include processes that would not work." Caustically recounting, Participant 09 stated, "The SME claimed to be an expert, and no one challenged his credentials. We began to refer to him as 'The Sausage King'" "There was no desire to listen to others," commented Participant 07 in reference to the SME. As the Participant Observer noted, "Internal SMEs were those that had the most convincing story to tell the executives who made the final decisions."

Project C2. Expert judgment was used to facilitate the design of the process. "The expertise of equipment manufacturers, such as the x-ray equipment, was critical to design the entire infeed and exit of the processing line. Without the input from the experts, the project would have taken longer to explore the various technologies and applications," stated the Participant Observer.

Good collaboration by the various experts allowed the project to meet its deliverables. The design of the system worked well, as Participant 07 stated, “We checked on how the equipment fit into the area, and the x-ray machine fit well with the conveyors.” Participant 07 then concluded, “It was not a complicated layout, but it was good to have experts on site with the x-ray.”

Project C3. Only one subject matter expert was used on this project. Since the time frame for completion of this project was one week, the project manager relied solely on the expertise of the equipment manufacturer. Participant 05 explained, “The less people you have involved in a tight time frame like that, it’s going to make it a lot easier.” Although this was not a new technology, it was critical for an expert to facilitate the installation, setting, and operation of the system for the customer.

“You may have only one or two people calling the shots, [but] other times it can get more complicated,” noted Participant 05. “The impact [of] relying on experts makes decisions easier in fast turnaround projects,” stated the Participant Observer. “Using a network to find solutions makes the project less challenging,” he claimed.

Project C4. This project engaged many SMEs who were both internal and external to the organization. “The process was new, but several aspects of the entire production line were known to some experts as other facilities were doing the same process,” explained Participant 09. “Those SMEs with known equipment facilitated their pieces of the process, while others failed to deliver. Failed SMEs lead the management team to make decisions, which would cause significant problems in the process,” noted the Participant Observer.

Good project management relies on SMEs for tools and techniques and to provide expertise guidance. Each project was described as utilizing SMEs to facilitate the successful completion of the project. Based on uncertain or unforeseen problems, elicitation processes may be useful for selecting experts (Singh, Sinner, Ellis, Kandlikar, Halpern, Satterfield, & Chan, 2017). Project A1 was highly complex and involved 276 channels of communication with multiple vendors and departments. Relying on vendors' expertise allowed the project to be completed and to meet its deliverables.

Project B1 relied on the expertise of the project manager who had installed similar processing lines in a competitor's facility. This project was also completed and met its deliverables. Projects C2 and C3 relied on the expertise of equipment manufacturers to recommend and deliver equipment to meet the overall goals of the project. The delivery of these projects with condensed life cycles was facilitated by the expertise of the SMEs.

Projects C1 and C2 relied on SMEs, but with negative results. Experts can be a major provider of information, but also introduce their own biases (Hathout, Vuillet, Peyras, Carvajal, & Diab, 2016). The SMEs did not provide positive contributions to the project, and as the participants noted, actually caused more "confusion, misdirection, and waste" based on their input. By relying on incorrect information from experts, management direction was significantly flawed, and poor decisions were made. An expert's individual judgment levels and opinions will have influence on results (Gong & Wang, 2017). Participants noted that the expertise was not correct, but when it was brought to management's attention, the concerns were discounted. Both projects suffered significant waste.

RQ3: Can a project's shortened life cycle provide benefits?

Project A1. The data from this project did not indicate that shortening the life cycle provided benefits. "There was stress to finish the project sooner, but constraints were lead times from equipment manufacturers. We imposed monetary fines on equipment vendors to meet their delivery times," stated Participant 02. The project had a long gestation period with multiple stage-gate processes. "I don't think a lot of changes were made, although the customer and operations always put pressure on getting the project done sooner," noted Participant 02. "The project manager continually looked for ways in which to deliver the project sooner, but was constrained by delivery times of the major pieces of equipment," observed the Participant Observer. "Um, yeah, there is always pressure to get projects done sooner. I, er…we put as much pressure as we could on the vendors and OEMs [IDENTIFY ABBREVIATION]," exclaimed Participant 02. "We just couldn't shorten this entire project," Participant 02 stated.

Project B1. The interview with Participant 01 and additional documentation from the Participant Observer did not reflect any significant shortening of this project life cycle. "Efforts were made to reduce the time for the project's completion, but stages had to be installed and they operated as one system," explained the Participant Observer. "We did see a benefit of shortening the project life cycle on the front end of the process to ramp up volumes and determine any issues with transfers," he noted. The knowledge area of human resources (HR) found it beneficial to bring additional labor onboard for training to get a running start on the operational handoff. "Shortening any aspect of a project places more stress on my area of personnel and human resources," declared Participant 01.

Project C1. "Shortening the project life cycle did not provide any noted benefits to this project as I observed a number of incidents in which trying to get things done sooner lead to more problems," noted the Participant Observer. "A rush to complete the project in [a] shortened amount of time actually caused more waste and created processes based on knee-jerk reactions," said Participant 09. Participant 03 also stated, "it was impossible to change anything in the process based on unknowns and the shortened time."

Project C2. "The project life cycle was shortened in this life cycle by incurring shipping costs, which reduced the delivery time by two weeks," stated the Participant Observer. Even with the shortened delivery time, other installation aspects prevented the overall project from reaching an earlier completion. For oversea shipments, one could argue that having the physical piece of equipment reduced some risk in the installation.

Project C3. The life cycle of this project was shortened to one week, which provided a benefit. Participant 05 stated, "The less people that are involved with a project, the easier it is to complete." "In this project, there were only three individuals involved: the project manager, the equipment manufacturer, and the facility's maintenance manager," explained the Participant Observer. Although Participant 03 stated, "it was an unrealistic timeline," the shortened duration facilitated the utilization of a network of people with connections to insure full operation in a week's time.

Project C4. "During the midpoint of the project life cycle, an executive decision was made to reduce the life cycle by one month," stated Participant 09. "The benefit of meeting this deadline would have been to provide product to the customer sooner, move through the production learning curve, and minimize risks associated with financial penalties for potentially

missing the original date," he went on to say. "From this point, there wasn't a clear-cut plan that the team members were aware of," explained the Participant Observer.

"It's about a plan. If there isn't a plan in place, you can just see the snowball effect," detailed Participant 07. Condensing the project life cycle placed higher stress on equipment manufacturers and the project team. "Shortening the life cycle caused more fragmentation in the current communication cycle," claimed the Participant Observer. "Quality was effected by a shortened life cycle. It was presented to the customer [as a choice:] if you want quality or to meet a deadline. There is a limit and balance between time and quality," stated Participant 07.

Project C3 was the only project that demonstrated a benefit by having a reduced project life cycle. The brevity of the project (one week) did not allow a significant amount of deviation. There were only three communication channels, and participants noted, "the less people involved, the quicker a project can be completed." In an emergency situation, experts from diverse professional backgrounds help make a decision (Wang, Labella, Rodriguez, Wang, & Martinez, 2017).

Projects A1, B1, and C2 had different stages of their projects compressed, but overall the complexity of the projects and interconnectivity of stages did not allow a shortened life cycle. Projects C1 and C4 did not demonstrate benefits from their shortened life cycles. Conversely, more immediate and long-term losses were identified by the participants of those projects. One study noted that by shortening the life cycle, a number of issues arose (Mourtzis, 2016).

RQ4: How did the interpersonal skills of a project manager affect the management of a project life cycle?

Project A1. This project was highly visible and critical to the customer. "A large number of people were involved with this project, incorporating several locations, equipment manufacturers, and support service departments," noted the Participant Observer. "I believe that I had 23 primary contacts for this project," noted Participant 02. The number of communication channels accordingly would be (n(n-1))/2 or (24(24-1))/2 = 276 (Project Management Institute, 2013).

"Communication went well, and I got along well with everyone. There were some intense moments, but trust was built with the team," claimed Participant 02. "I think my personal drive and communication skills were important to drive the project to completion. I built a lot of relationships throughout this project. Interaction with VPs helped build a trust and relationship" explained Participant 02.

As the Participant Observer stated, "The project manager affected the management life cycle by actively communicating." "At one point I was reprimanded for my cell phone usage and cost. I didn't care because overcommunication was always better. I needed to push the vendors to meet the deadlines," remarked Participant 02.

Project B1. "Interpersonal skills are necessary for good communication," stated Participant 01. "In this project, the entire facility and corporation was dysfunctional. New ownership, loss of business, new project made it necessary for the project manager to have good communication skills," claimed Participant 01, who was the human resources SME. The

Participant Observer noted, “The project manager had to have the ability to communicate with all groups to continually focus on the end goal of the completed project.”

Project C1. “The original project manager chastised the operations personnel in front of the customer, stating we didn’t know what we were doing,” stated Participant 03. Participant 03 continued, “I was ‘put off’ by that as well as not being involved with the ongoing process.” Participant 05 noted, “the first project manager was not open to anyone’s ideas.”

It was observed by the Participant Observer that the facility personnel did not appreciate or respect this project manager. “We really didn’t want him [the first project manager] in our plant or working on projects,” stated Participant 09. In the middle of the project, due to missed deadlines and poor facilitation, the project manager was removed and replaced. “He was just difficult to work with,” Participant 09 clarified about the first project manager.

“The replacement project manager,” observed by the Participant Observer, “used network connections to establish credibility while building trust with the facility’s personnel.” Communication with vendors by the project manager conveyed the importance of meeting deadlines and delivering projects sooner when possible. “There was better involvement with the replacement project manager than the original project manager,” stated Participant 05. “The new project manager challenged everyone to personally commit to the success of the project,” explained Participant 07.

Project C2. The interpersonal skills of the project manager were first required to convince the stakeholders at the facility to agree on one specific equipment manufacturer of x-ray machines. “It was a difficult task as the Assistant Vice President and General Manager did not want the x-ray manufacturer I was recommending,” explained the Participant Observer. The

second challenge for the project manager's interpersonal skills was convincing the same person to approve the design of the processing layout. "It was a good initial plan communicated by the project manager," claimed Participant 07.

Project C3. There was limited supporting data regarding interpersonal skills on this project. Since only three main individuals were involved, there was not a significant amount of influence needed to complete the project in one week. "The project manager used his people connections to get the project completed," stated Participant 09. "I didn't think we could get the equipment fixed and installed in time, but the project manager was convincing. We knew in the long run we could get more business from the company if we performed well on projects like this," remarked Participant 07.

Project C4. Interpersonal skills were challenged on this project. There were many stakeholders with more influence and decision-making power than the project manager. The Participant Observer noted, "the communication was dysfunctional with a plethora of changes constantly to the project scope." "There were a lot of changes to the scope, which weren't always communicated timely," lamented Participant 09.

The life cycle had an original date, but it was condensed by the executive stakeholder, thus limiting the influence of the project manager's interpersonal skills. "Communication was much better on this project compared to other projects," explained Participant 07. "Although internal communication was fragmented," noted the Participant Observer. Corroborating this statement was Participant 09. "This project was doomed from the beginning as there were so many different groups doing different things," confirmed Participant 09.

The skills of project managers in these projects influenced the management of the project life cycle. Skills, or lack thereof, contributed to negative and positive results and affected the management and the team members. The project manager for Project A1 influenced the management in a positive way as he described his interaction with the team. "We all got along and worked together really well. Each of us had a role to play, and even with some tense moments, we really got along." Communication was identified by this project manager as a critical tool, which made the project successful.

Project B1 was rated as successful because the participant and the Participant Observer both identified the deliverables as having been met. The project manager communicated the action plan for the project to all stakeholders well. It was critical to manage various groups and keep the main customer informed of the project's progress. Issues that emerged needed to be addressed by the project manager and rectified before negative effects occurred on the timeline. "There was a good working relationship with the project team with daily updates on the project's status," stated the participant who was the human resources' SME.

Project C2 did not present a significant amount of data related to the interpersonal skills of the project manager because the time frame was highly condensed. Influence skills were noted, as the project manager used a network of contacts to secure necessary equipment, to reduce the time for refurbishing the equipment, and to insure utilities were available in one week.

Project C3 demonstrated the persuasion skills of the project manager who had to convince operation decision makers in two areas: type of equipment needed and process layout. Interpersonal skills were required to influence equipment manufacturers to ship the equipment early and also to convince others to undertake early installation stages to meet the deadline.

Project C1's project manager was described by participants as lacking interpersonal skills. One study stated that a main factor that influenced results of the project team was motivation (Araujo & Pedron, 2015). Negative attitudes and a condescending approach did not positively affect the project life cycle. "By not listening to others, a great deal of frustration was created by the project manager," stated Participant 03. A project manager needs to know what the clients are talking about (Araujo & Pedron, 2015). "There was a strain put on everyone by the project manager and other corporate personnel," claimed Participant 09.

Conversely, Project C4's project manager was described as a positive influence on the project. Social competencies noted by one study may be as important as functional competencies (Marion, Richardson, & Earnhardt, 2014). Limited decision-making opportunities prevented the project manager from fully using interpersonal skills to affect the deliverables. "Quality was effected by the time constraints and not in good way," noted Participant 05. As the scope continually changed, the project manager's ability to keep multiple trade groups on task, while also coordinating with equipment vendors, took significant skills. Project managers need to develop interpersonal skills, which is everything in this job (Marion, Richardson, & Earnhardt, 2014).

RQ_5: How are project deliverables impacted by a shortened project life cycle?

Project A1. This project did not demonstrate a significantly shortened project life cycle. Some stages of the project were shortened, but the end completion date was on target. "The project was on budget, around the $5 million dollar mark, and I think slightly behind time," excitedly stated Participant 02. "Overall, the project eliminated 188 non-value-added positions

and reduced the mispackaged products and mislabeled packages to a manageable level, which the external customer accepted," added Participant 02.

"Observing the project through its progression, there was little to no indicators that shortening the project life cycle would achieve any more significant result," reported the Participant Observer. "Reducing the life cycle would have eliminated some of the weekly monetary fines for mispacks and mislabeled products, as well as add to the labor savings for the facility," noted Participant 02. "Even with the noted savings, the labor costs and fines were built into the costing model and would not have affected the bottom line," explained the Participant Observer.

Project B1. "One phase of the project, I believe, had a shortened life cycle," claimed Participant 01. Overall, the deliverables were not significantly impacted by shortening the project life cycle. "The state of the facility, being on the brink of financial collapse, if shortening the life cycle would have been a contributing factor to the survival of the facility, I believe it would have been condensed," claimed the Participant Observer.

"Everything is better when you are turning a profit. When we were turning a profit, the corporate executives looked good, and everyone looked good," Stated Participant 02. "The project met the deliverables on volumes and quality, but not on time or budget," noted the Participant Observer. "Condensing the time frame, overall, did not significantly benefit the outcome of this project."

Project C1. The push to deliver this project in a shorter time period lead to detrimental results. "Conflict between corporate personnel and facility personnel was tangible and palpable," claimed the Participant Observer. "Walking into a conference room with the various

entities, one could cut the tension with a knife," he explained. "We wasted resources, money, time, and material to meet this unrealistic deadline," exclaimed Participant 09. "Sure, eventually we met the needs of the customer, but there was a lot of sacrifice and waste associated with it. I don't think we ever got to the point of getting the process completed to achieve 100% of the deliverables. I think we still needed to improve on our internal yields," stated Participant 03.

Project C2. "The deliverables on this project were met, but the need to meet the deadline circumvented some aspects of the original design," noted the Participant Observer. "To get the project done on time, a recirculation loop was eliminated from the project, which later added to increased rework costs," explained Participant 07. These costs did not affect the end customer, but the additional costs did impact the profitability of that specific product line. "Shortening the time frame allowed the deliverables to be met, but not without ancillary costs and longer-term effects on the processing line," claimed the Participant Observer.

Project C3. The shortened project life cycle benefitted this project. By not having a large number of stakeholders or a long gestation period, the project was delivered on time to meet the customer's approval and secured a long-term manufacturing contract. Channels of communication were minimized to $(n(n-1))/2$, $(3(2))/2 = 3$. "We were lucky to find equipment available, but that is what is nice about the industry where you can utilize connections and networks to find equipment," noted Participant 03.

Project C4. "The shortened project life cycle negatively impacted the deliverables on this project," stated Participant 09. He went on to say, "Continual changes of the project, coupled with the shortened life cycle, affected all of the stages of the project starting five months

from the beginning when the charter and funds were approved. The layout became convoluted and inefficient." Participant 07 noted, "From the original design to the ongoing design changes, there were inefficiencies and no solid answer."

"Deliverables continued to change as the customer and one organizational group worked in a vacuum, not sharing needed information to secure layouts or equipment timely," stated the Participant Observer. "As equipment manufacturers, we had to approach the project with an understanding of its fluidity," noted Participant 05. "It was as if the customer did not have a plan, which I feel placed stress on everyone involved," clarified Participant 05.

By condensing the project, life cycle deliverables were significantly impacted in a negative manner. The costs surpassed the initial budget by several million dollars, and equipment specified by SMEs needed to be replaced, modified, or supplemented. The quality of the end product was acceptable, but the consistency was hit or miss. "I don't think we hit everything we wanted to hit with quality. There were some timing issues," explained Participant 07. Accurate planning and controlling of activities during lifecycle phases can significantly contribute to the project's quality and cost (Klas, Nakao, Elberzhaer, & Munch, 2008). Increased waste of labor, material, and time contributed to this project missing its intended deliverables.

The deliverables in Projects A1, B1, and C2 were not significantly impacted by the shortened project life cycle. These three projects did have pressure to shorten the life cycle, but equipment manufacturing constraints limited the shortening of their life cycles. One stage of Project B1 was condensed, which allowed some deliverables to be realized early. Project C3 had its deliverables impacted positively by the shortened project life cycle. All three deliverables of

time, cost, and quality were met. The customer was very pleased with the product produced from the equipment and rewarded the facility with a long-term contract.

Projects C1 and C4 demonstrated negative impacts caused by the shortened project life cycle. In Project C1, millions of dollars of equipment had been installed and was removed within a six-month time period. "All of the equipment was custom made and had to be scrapped," explained Participant 05. "Not allowing the deadline to be extended was unrealistic," claimed Participant 03. Project C1 did not meet the deliverables and incurred significant waste as a result of the condensed project life cycle. Major implementation projects should require transition options to document change to the process (Nageldinger, 2015).

Project C4 did not meet its deliverables. The condensed project life cycle, in conjunction with multiple scope changes, negatively impacted the deliverables. Scope change should always permit timelines to be adjusted (Shirazi, Kazemipoor, & Tavakkoli-Moghaddam, 2017). The intent was to extend the baseline, but the inverse was observed in this project. Constant fluctuation of the schedule placed stress on individuals and negatively affected their performance. Waste was generated in addition to missed deliverables.

Review of Organizations

Data collected and analyzed from each project and participant demonstrated unique project management applications related to different projects in the U.S. meat industry that produces consumer ready products. Diverse organizational structures and four project management knowledge areas were underlying contributors to the management of the project life cycle. Organizational governance occurred at different levels and defined how projects were managed (Momcilovic, Petromanjanc, & Doljanica, 2014).

Organizational structure. The organizational structures of the three processing companies were comprised of differences and similarities. All organizations were defined as hierarchical and included a strong top-down decision-making structure. Additionally, all organizations were classified as functional organizations, which by definition, was one of the more difficult organizational structures through which to engage project management (Project Management Institute, 2013).

Company A. This organization was highly structured regarding projects. Although it was a functional organization, projects were managed efficiently. There was a structured process in which projects were evaluated, defined, and assigned to specific groups. These groups functioned with the oversight of corporate responsibilities, yet the groups needed to satisfy the needs of the functional operations at each facility.

Company B. This organization was neither structured nor defined by participants as dysfunctional. Little oversight or minimal engagement from the corporate stakeholders did not affect the deliverables of the project. The perceptions of the participants reflected a lesser view of the facility and project compared to other facilities and projects in the organization. Success or failure of the project, according to the participants, was solely the responsibility of the facility's personnel

Company C. This organization was structured on paper to address projects, but it did not operate projects logically or in accordance with PMBOK principles. The four projects at this organization reflected extremes in duration, cost, and combined complexity and technology. The overarching perceptions of the participants indicated that the organizational departments involved with projects operated in a silo mentality.

These silos, created by participants to limit information, provided inaccurate information, obstructed communications, and caused multiple scope changes. The scope changes did not follow a process and could be changed by various stakeholders, thus exacerbating the level of frustration noted by the participants. With little understanding of the 10 project management knowledge areas, the condensed project life cycles negatively affected decisions and contributed to the mismanagement of Projects C1 and C4.

Themes, Patterns, and Relationships

While examining the transcripts of the participants' interviews, certain patterns, themes, and relationships were discovered. Word patterns exposed a common thread related to project waste and communication. Overall, Organizations A and B prompted less descriptive words from the participants compared to Organization C. However, it must be noted that more participants were involved with describing projects in Organization C than in the other two organizations.

An underlying theme to all the projects was the emotions of the participants. Each of the participants conveyed deep passion in their descriptions of the projects. Each project had consumed a significant amount of the participants' work and personal time. For most of the participants, the inability to make effective decisions led to frustration, disappointment, and in some cases, emotional disengagement from the project. Those participants that emotionally disengaged from the project had felt they were marginalized and not considered relevant or their input was valued negatively, which significantly affected the project. Each research question reflected certain themes, patterns, or relationships of the participants and other actors.

RQ_1: What waste was incurred in a project due to the mismanagement of the project life cycle? A theme that emerged among all of the projects was a level of waste was generated throughout the life cycle of the project. Some participants noted a concern regarding waste, as Participant 02 stated, "I think time was wasted with the politics between different groups." Participant 03 and Participant 09 classified Project C1 as, "A significant amount of unnecessary waste was generated." Other projects, regardless of their outcomes and deliverables, incurred some type of waste.

The amount of waste (time, cost, and raw materials) indicated the existence of a relationship between the adherence or deviation from the project scope and life cycle. Project C3 demonstrated the most condensed life cycle of the six projects; yet, the condensed life cycle contributed minimal waste to the overall cost of the project. Project C1 and Project C4 deviated from the original project scope and life cycle, and both incurred significant waste in time, cost, and raw materials. A relationship between condensed life cycles and deviation from the project scope had been demonstrated in all projects.

RQ_2: What impact can expert judgment have on management decisions in the project life cycle? All projects relied on expert judgment for decision making throughout the life cycle of each project. Projects A1 and B1 relied on the expert judgement of others that had either designed or installed similar systems. Projects C2 and C3 also relied on the judgment of experts who had experience with the technology, but not the specific application of that technology in those processes. Additionally, Projects C1 and C4 relied on expert judgment, yet generated different results compared to the other four projects. Why?

A pattern that emerged during the interviews related to the use of expert judgment involved in the vetting process used in each project. Projects C1 and C4 alienated certain expert judgments from the project, as described by Participant 03: "Our expertise and opinions were not taken, even though we had been doing this work for years. But I got over it." Project C4, as noted by the Participant Observed, had many subprojects underway concurrently, and each project seemed to, "Have their own experts, without any backup for the decisions." The other four projects reflected a positive use of expert judgment in the project life cycle, which benefitted the project and the participants. These positive aspects indicated the existence of a respectful relationship between the project participants and those providing expert judgment.

Participant 02 stated, "I had a good relationship with team members and the OEMs used for the project. We used their expertise to get certain parts of the project done." Participant 01 noted, "The project manager had designed similar systems for a competitor, so the customer was comfortable with him doing this project." The relationship provided by "good" expert judgment was established by the individual participants and actors in each project. Some of these actors functioned as mediators when they should have been intermediaries. Intermediaries simply pass on information as a communication channel, while the mediators enact some type of action. Although infinitesimal, the distinction between mediator and intermediary produces two different and distinctive results (Latour, 2005).

The action of expert judgment in Projects C1 and C4 provided less-than-desirable results. By influencing decisions, some actors had moved from the role of a simple intermediary to that of a mediator. Participant 09 stated, "There was not accountability for the 'experts' that told us to install specific equipment, which didn't work and had to be removed." This statement, along

with other participants' comments, denoted the existence of an antagonistic relationship between the participants and those providing expert judgment to make decisions.

RQ_3: Can a project's shortened life cycle provide benefits? During the life cycle of each project, there would seem to be a conclusion reached that no benefits could be derived from a shortened project life cycle. Project C3 presented an anomaly to any pattern or theme, but touched on a relationship identified by Participant 03 and explained by Participant 05 who said, "The more people you have involved with a project the more issues [that] can arise." With only one week to complete the project and only three main participants, the successful completion of Project C3 confirmed the participants' beliefs that limited actors in a project indeed provided a benefit.

A pattern emerged from Projects A1, B1, C1, and C4 that had longer original gestation periods. These four projects had completion dates set further in the future than Projects C2 and C3. The extended time allotment for each of the projects allowed more opportunity for changes to be introduced or proposed. Participants in Projects A1, B1, C1, and C4 commented on the changes that were requested or simply made by various stakeholders. A noted difference was that the management of Projects A1 and B1 resisted this project creep and minimized negative effects to deliverables. Conversely, Projects C1 and C4 showed a pattern of continual changes to the scope and compression of the life cycle, which negatively affected the deliverables.

RQ_4: How do the interpersonal skills of a project manager affect the management of a project life cycle? Data from the six projects reflected the personal interactions of the project manager and stakeholders influenced the outcome of projects. A theme developed when examining the words used by participants in Projects A1, B1, C2, and C3. A majority of the

words and phrases were positive, such as: teamwork, friendships developed, relied on others, successful, good plan, great relationships. These four projects met their deliverables. Projects C1 and C4 showed a pattern of negative descriptive words and phrases such as: no plan, would not listen, no input, discounted, ignored, and dismissed.

Project managers who utilized a positive approach to the project, regardless of the life cycle, produced good results. The relationship alone was not enough to guarantee that a positive attitude would have generated positive results, but negative attitudes had been shown to discourage the efforts of team members on Projects C1 and C4. A negative attitude stymied Project C1 to the point the original project manager had to be removed and replaced. Although the replacement project manager had created positive action and had demonstrated good interpersonal skills, Project C1 did not meet its original deliverables. A relationship between the interpersonal skills of a project manager and the project outcomes did exist, but not in a direct cause-and-effect correlation such as positive skills will yield positive results or vice versa.

RQ_5: How are project deliverables impacted by a shortened project life cycle? Shortening a project life cycle effects time, cost, quality, or a combination of the three (Project Management Institute, 2013). The participants noted that, during each project, the customers were made aware of these potential effects when compressing the life cycle. "Anytime you make changes, and it depends where in the process the changes are made, there will be some effects. The further into the production stages, the more cost will be incurred," stated Participant 05. Participant 07, when referencing Project C4, commented, "The customer didn't know what they wanted for the final product and it kept changing. A lot of wasted time was spent on that project."

One main theme among each of the six projects was the pressure to reach completion sooner than originally agreed upon with stakeholders. In essence, the goal had been to beat the original deadline. Various forces were shown to influence actions or activities. These actions related to pressures were not invisible, but as noted by Latour (2005), the actions had functioned as independent agencies, which we have no control over their ability to make us do things. Shortened project life cycles impact deliverables in various ways that have been shown to range from negative to positive outcomes.

Compare and Contrast. The literature review identified research that had been conducted on project management in various industries. One theme identified in the literature was the impact the behavior of project managers, project team members, and stakeholders had on overall project performance. It was identified in this research that the behavior and emotion(s) of each participant had affected projects.

RQ_4 posed a question about the impact the project managers' interpersonal skills had on projects. In the six projects studied in this research, there was a pattern associated with the emotional intelligence, interpersonal skills, and maturity of the project managers and the outcomes of the project deliverables. As noted by Ahsan, Ho, & Khan (2013), project managers needed to possess strong interpersonal skills.

Another theme associated with the value of interpersonal skills was the behavior of project managers and stakeholders. Nangoli, Namagembe, Ntayi, & Ngoma (2012) described stakeholders as having emotional connections to the outcome of projects. Several of the projects introduced variations, which also introduced changes to the project scope. As noted in the

literature, emotions that could affect organizational change were introduced by altering tasks and processes (Bönigk & Steffgen, 2013).

In contrast, RQ_2 questioned the impact that expert judgement had on projects. Expert judgment was defined as those with knowledgeable specialized education, skill, training, or experience (Project Management Institute, 2013). The participants and the Participant Observer discussed the six projects of this research and identified the selection and use of expert judgment as a critical aspect to the outcome (success or failure) of the projects. Although the Project Management Institute (2013) identified the value of expert judgment as critical an input as tools and techniques, the selection of expert judgment was not well developed in the present literature.

One relationship identified by the literature review was the interconnectivity of project managers and stakeholders, both internal and external to the organization. Didrage (2013) had advised that the management of inter-stakeholder relationships was a method to mitigate project risk. Participants in this study had noted that relationships between team members had impacted the outcomes of the projects. As noted in the literature review, project managers needed to develop relationships within an organization in order to navigate a project within the constructs of the current organizational structure (Marion, Richardson, & Earnhardt, 2014).

An ongoing theme exposed in the literature review was the correlation between project length of time and increased risk. A longer time duration involved in a project often had an effect of incurring more risks (Reed & Knight, 2013). RQ_3 and RQ_5 explored the inverse to lengthy duration of a project with the introduction of a shortened project life cycle. Time constraints of projects was a theme compared to the literature and projects analyzed in this

research. Project goals tied to time constraints were difficult to achieve when the projects had longer time duration (Yugue & Maximiano, 2013).

Projects A1, B1, and C3 had stood in contrast with the theme of longer project duration. These three projects were tasked in the scope with durations of 30, 24, and 36 weeks, respectively, and were not significantly impacted by time constraints. Project C4 had supported the literature review data and had the longest duration period of 76 weeks. Participant 09 noted that significant risk was introduced during Project C4, which negatively impacted the results. The pattern of project duration reflected in the literature review demonstrated some projects that supported the pattern (Projects C1 and C4), while other projects showed an inverse relationship (Projects A1 and B1).

The major overarching theme identified in the literature on project management, and supported by this research, was the impact of project communications. Communication was highly important for facilitating information among stakeholders (Chou & Yang, 2012). Participant 02 stated that he “overcommunicated” to insure the stakeholders had been informed. Successful project managers had shown the ability to facilitate effective communication between stakeholders (Kloppenborg, Tesch, & Manolis, 2014). In contrast, ineffective project communications were highlighted in Projects C1 and C4.

Poor communication between stakeholders had been identified in one research study as the third most significant factor for project failure (Ikediashi, Ogunlana, & Alotaibi, 2014). Participants 03, 05, 07, and 09 noted poor communications in Project C1 as a factor contributing to its failure. The inadequate communication also led to conflicts between team members.

Conflicts between project team members had negatively reflected on the organization as a whole (Zhang & Huo, 2015).

Outliers. One outlier that was evaluated was the knowledge of unrealistic time frames for project completion prior to starting any project. Participant 03 stated, "Ownership always has unrealistic start times for projects." Knowing the project life cycle is flawed from the start, one could argue the stages of the life cycle are then moot. Project team members, if aware of such unexpected time constraints, would have easily become disengaged and shared the feelings Participant 03 demonstrated by being frustrated, discouraged, and marginalized.

Another outlier described was the personnel of the equipment manufacturing company involved with Projects C1, C2, C3, and C4. Interview participants highlighted the importance of knowing the modus operandi, or standard procedures, of the processor. "We know there will be changes, and we do our best to make the customer happy," stated Participant 05. With an understanding that changes would occur with projects engaged by Company C, the equipment manufacturer had taken anticipatory steps to mitigate delays and support overall project outcomes. On certain projects, additional time was included in the quoted equipment delivery contract.

A third outlier was Project C3 in which the project life cycle was condensed. A unique piece of processing equipment was located and required only a few modifications. Participants 03, 05, and the Participant Observer referenced in various terms, "being lucky" to have found this equipment, which was needed to complete the project on time. Part of being "lucky" had incorporated the far-reaching network of actants to facilitate locating, modifying, transporting, and installing the required equipment.

Relationship of the Study to Project Management

Project management has continued to expand into diverse industries, and these industries have growing awareness of the benefits and applications the PMBOK can provide. This qualitative research study explored projects conducted in three companies in the U.S. consumer ready meat processing industry. Conducting interviews with industry participants provided insight into projects in which the project life cycles were compressed or attempts were made to compress project life cycles. Findings from the data are related to a larger body of literature in the areas of human behavior, Actor-Network-Theory (ANT), and Cause-and-Effect Theory.

Human Behavior

"I felt dismissed," stated Participant 03 from Company C. Participant 01 from Company B claimed, "We were ignored by corporate." Emotional statements were made by each participant in each project of this study. "Sometimes the situations were tense," noted Participant 02. "I didn't feel part of the team after a while, but that was ok," stated Participant 03. "Listening to Participant 03 recall his involvement and then being discounted, it appeared to me that there was still some resentment towards the company and individuals, but not the project itself," commented the Participant Observer. "There was a lot of raw emotions and feelings towards these projects and interactions with team members," noted the Participant Observer.

For project teams to be effective, members should be empowered and trusted (Krog & Govender, 2015). Participants in the four projects engaged by Company C provided visceral accounts of negative feelings resulting from another participant's behavior. Research has shown that project challenges are largely related to personnel issues (Moodley, Sutherland, Pretorius, 2016).

Stress was identified by participants as caused by interactions with others, which directly affected their performance. Sociology researchers have described stress behaviors as social constructs influenced by human social network influences (Padmaja, Prasad, & Sunitha, 2016). Participants 01 and 02, in projects from Company A and Company B, also identified stress related to their projects. Different types of teams and the functions of individuals are likely to vary (Ceri-Booms, Curseu, & Oerlemans, 2017). The success of Project B increased stress levels, as many jobs were dependent on its completion and stakeholders' deliverables.

Emotional attitudes toward phenomena have affected individuals' behaviors and shaped their roles within an enterprise (Bodak, Cierniak-Emerych, Gableta, Pietroń-Pyszczek, & Piwowar-Sulej, 2016). The behavior of participants and identified stakeholders impacted the results of various projects studied. The project manager for Project A, Participant 02, attributed the emotional interaction of individuals as "good team building." "We learned each other's buttons and what to push and what not to push," stated Participant 02.

PMBOK identified team development using the Tuckman Model of forming, storming, norming, and performing (Project Management Institute, 2013). Participants in this study identified with each of these stages, but Project C1 and Project C4 continued to slip back into the storming stage as described by some participants. The project teams and the interactions of the participants could be traced by the Tuckman Modell and the associations identified by the Actor-Network-Theory (ANT).

Actor-Network-Theory (ANT)

Actor-Network-Theory provided a flat landscape that allowed one to trace social relationships dynamically (Jansen, 2016). Every interview provided the researcher with an array

of entities to account for the *how's* and *why's* of any course of action (Latour, 2005). Projects existed only when there had been interactions among an organization, individuals, and the technology needed. Multiple actors were common to all projects explored and were representative of projects in the U.S. consumer ready meat industry, but three main actors were: organizations, technology, and individuals. An actor network had elements of humans, technological artifacts, and organizations (Hanseth, Aanestad, & Berg, 2004).

As demonstrated in this research, the actants interacted in various ways during the implementation of a project. Projects ranged in complexity, technology, duration, and cost. Various organizational structures posed challenges to project managers and their abilities to apply interpersonal skills to manage projects. There existed a social force that makes actors do things unwittingly (Latour, 2005).

One observed network existed between project managers and equipment manufacturers. Projects C1, C2, C3, and C4 delved more deeply into this network and the relationship that existed between these two actors. Unrealistic deadlines and a condensed project life cycle solidified the relationship between these entities and formed strong associations.

The development of a project can be constructed within actor networks, which are created and recreated by human and non-human agents continuously (Ertsen, 2016). Each project presented different scenarios to the actors who then needed to adapt to each situation. Participant 05 (the equipment manufacturer) in Projects C1, C2, C3, and C4 developed an understanding of Organization C's structure and adapted by stating, "Our involvement with projects exists because of relationships we have with people in the organization. We have gotten used to the changes. We don't like all of the changes, but we adapt the best we can to make the customer happy."

The project manager of C2 and C3 claimed, “These projects would not have been completed without the extra effort put forth by the equipment manufacturer.”

Relationships between organizations are connected in the sense that the relationships depend on exchanges and are managed by actors in those organizations (Manser, Hillebrand, Klein Woolthuis, Ziggers, Driessen, & Bloemer, 2016). Dysfunctional organizations were uncovered through the interviews of myriad participants. Management of actors in organizational politics is a regular phenomenon, which could lead to functional and dysfunctional consequences (Omoijiade, 2016).

Cause-and-Effect Theory

Shortened project life cycles led to increased waste and missed deliverable in those projects that allowed the life cycle to be condensed. The disruption of communication channels effected aspects of the life cycle in five projects. Causes of communication noise were noted to be both passive and active. Projects in Organization A and Organization B presented challenges in communication identified and described as passive. Participants in Organization C noted activities that intentionally withheld or misdirected communications in two of the projects.

For a project to be successful, team members needed to work together, communicate, and coordinate tasks (Smit, Bond-Barnard, Steyn, & Fabris-Rotelli, 2017). Effects of communication seemed to impact the behavior of participants in all projects. The effect caused by condescending and dismissive comments in Projects C1 and C4 lead to participants negatively perceiving the project and their fellow team members. Project B1 reflected a different effect caused by the lack of attention from the corporate office. In that case, the project team seemed to become more cohesive and perform better.

Another effect caused by project life cycle changes was identified by participants in Projects C1, C2, C3, and C4. The equipment manufacturer and the project managers became closer with their communication process, although the internal communications of the organization were identified as limited and operating in silos. Interpretation and internalized information communicated to project participants influenced actions and outcomes (Iyamu, 2017).

The influence and power of the participants has also shaped the projects' outcomes. Employee commitment to projects was found to be positively associated with both harsh and soft power sources (Moodley, Sutherland, & Pretorius, 2016). Participants in Projects C1 and C4 reflected a negative outlook on the project because of the perceived condescending attitude of the corporate project team members. Conversely, the project manager in Project A1 reflected a positive outlook based on both harsh and soft power sources.

Application to Professional Practice

The global population continues to grow. Similarly, the demand for meat proteins continues to expand exponentially. Production, consumption, and optimization of meat production remains an important factor (Hovhannisyan & Grigoryan, 2016). Data from this research has shown that the mismanagement of projects due to condensed project life cycles led to increased waste, missed deliverables, and disenfranchised stakeholders. The findings of this research can be applied to improve project management in the U.S. consumer ready meat industry as well as other industries that rely on projects and project management.

Improved Business Practices

This study reflected projects in the U.S. consumer ready meat industry that were subjected to time constraints, which ultimately impacted resources, deliverables, and stakeholders. To improve project management and utilize the findings from this study, several specific actions should be incorporated in the management of projects. A keen understanding of PMBOK's 10 project management knowledge areas would be necessary to best identify the knowledge areas affected by shortened project life cycles.

Project planning, scope management, communication management, stakeholder management and utilization of expert judgment were identified as key areas impacted in these cases. The participants spoke emotionally and reflected on the effect mismanagement of these projects had on resources, deliverables, and stakeholders. To improve the management of projects to benefit organizations, the following practices can be incorporated into project management. The following sections provide a synopsis of the problem identified and actions recommended to prevent similar issues from occurring in future projects.

Process Group Planning

Planning was the only process group that incorporated all 10 project knowledge areas identified by PMBOK. In the planning stage, scope creep, specification changes, and poor vendor selection highlighted by Devi & Ananthanarayanan (2017) as significant factors of cost over-run. Scope creep was noted in Projects C1 and C4, which according to Participants 03, 05, 07, and 09, contributed to increased cost of the project. By applying strict control of planning and minimizing scope creep, increased costs could have been avoided.

Failure to properly plan in the knowledge areas of scope, communication, and stakeholder management led to compromised management decisions. Specification changes were not planned or communicated to appropriate groups in Project C4, according to Participant 09 and the Participant Observer. The specification changes were poorly communicated and added to additional costs, as noted by Participants 05 and 07. Established specifications should only have been allowed if there was a formal process. Such a formalized process would have insured changes were communicated to appropriate stakeholders, and thus minimize costs in late changes.

Planning was critical to the success of projects (Project Management Institute, 2013). Those projects with long durations (Projects A1, B1, C1, and C4) had initial plans established to deliver the expected goals. To insure projects were planned well, stakeholders needed to be engaged from the early stages of the project. This engagement should be formalized; participating stakeholders must understand and commit to the scope of the project. A formal document signed by all members would have provided a sense that commitment was acknowledged for the scope. To be committed to a scope required a detailed document stating the required work with specified features and functions (Project Management Institute, 2013).

Scope Management

Participants in this study identified project scope creep to be an issue that impacted projects. One researcher identified 70% of scope creep to be attributed to poor documentation, poor change control, poor information transformation, and external changes (Shirazi, Kazemipoor, & Tavakkoli-Moghaddam, 2017). Project managers could be compromised by situations where concurrent management of the scope and stakeholders was required.

Management of the project scope could be improved by continual alignment and communication efforts by the project manager and stakeholders.

It may seem common sense or basic project management, but only one project had a detailed scope (Project A1). A project scope has been deemed necessary and was one of the first steps in project management (Project Management Institute, 20103). Projects in the consumer ready meat industry should be required to have detailed scopes developed. By elucidating the need for a detailed scope, organizations can better understand the impact scope changes have had on projects in this study and would illustrate the benefits of avoiding changed scope and compressed time lines.

Communication Management

Managing communication is a challenge for any type of manager. Communication was identified in five of the six projects in this research project as having impacted the outcome of the projects. This study showed that regardless of the project's complexity, technology, duration, or cost, the communication process impacted the project's ultimate success. Information management technologies and processes have been developed to improve communication management (Eskelinen, Rajahonka, Villman, & Santti, 2017).

Improved project communication should be based on a controlling document that provides continual updates for all stakeholders to access. This dashboard would be controlled by the project manager and updated on a predetermined schedule. An Excel spreadsheet or Project spreadsheet are two programs that can be created in a common file folder and accessed by identified stakeholders through properly secured communication channels. The project manager would push the information out to the stakeholders for their review and comments.

In addition to a common spreadsheet file, the project manager should lead a formal team meeting at a specific day and time each week. For example, if the spreadsheet is updated on Monday, then a face-to-face meeting with all stakeholders could, and arguably should, be held on Friday. Over communication is what Participant 02 noted as a successful input to Project A1.

Stakeholder Management

Good project managers understand that stakeholders include other role players whose interests need to be considered (Hammond & Luiz, 2016). To manage stakeholders, the project manager can utilize some key findings from this study. The project managers in the six projects were presented with various scenarios. Each scenario had multiple stakeholders demanding to have their specific needs met. To meet the needs of stakeholders and manage them, an account list and needs list should be maintained in a shared file in addition to the shared project file.

A common file that lists the "owner" of the deliverable, resources dedicated to the deliverable, and impact to the overall project would be shared in the same common area as the project update. A specific time would be allotted on the agenda during the proposed Friday meeting for the stakeholders to voice any opinions on the impact of specific deliverables and stakeholder concerns. The study reflected several issues regarding different or changing variables that affected the outcomes of projects. Specifically linking the stakeholder to the deliverable should minimize the silo effect or vacillation of specific and defined deliverables.

Tools and Techniques – Expert Judgement

Expert judgment was defined as those with knowledgeable specialized education, skill, training, or experience (Project Management Institute, 2013). Expert judgment in the meat

industry had been claimed by many simply by their tenure within the industry. Other "experts" have claimed notoriety by their communication skills and abilities to persuade others.

To minimize the effect or influence of stakeholders on selection of "experts" for expert judgment, a standardized checklist should be incorporated. This checklist would identify key variables and expertise needed for various products or services required by a project. Rating the experts would fall to a three-member group of project managers, two of whom would not be connected to the project utilizing the expert.

Selection and application of expert judgment in this research has been shown as critical to each project's success. Experts can be prone to overconfidence and groups of experts can be subject to groupthink (Singh, Sinner, Ellis, Kandlikar, Halpern, Satterfield, & Chan, 2017). The proper selection and application of experts reflected the organizational structure and the expertise of each project's manager.

Biblical Framework

Projects are described in great detail throughout the Bible. A project is a temporary endeavor to deliver some type of good, such as a product, service, or result (Project Management Institute, 2013). God's project scope for mankind is perfect in design. The first project depicted in the Bible was "…man gave names to all the livestock, the birds in the sky and all the wild animals." (Genesis 2:20, NIV). Projects were initiated, as described in the Bible, as having a well-defined scope. Projects without a scope and approved by God would be "…those who build it labor in vain." (Psalms 127:1, NIV). Not all projects were approved by God. For example, the Tower of Babel was an enormous construction project that used "brick instead of stone, and tar for mortar." (Genesis 11:3). But, this project was in God's plans and He said, "If as one

people speaking the same language they have begun to do this, then nothing they plan to do will be impossible for them." (Genesis 11:6, NIV). Conversely, two projects blessed by God were successful: one managed by Solomon and the other managed by Nehemiah.

The building of Solomon's Temple and the rebuilding of the wall around Jerusalem by Nehemiah exemplified well-executed project management. Each project can be shown to have used the major process groups and knowledge areas outlined in the PMBOK. Although each project was unique, both required initiating, planning, executing, monitoring and controlling, and a closing.

Solomon Builds the Temple

The Temple of the Lord Solomon built would not have been accomplished if there had not been a defined project scope. All of the work was carried out from the beginning of the foundations until it was completed (2 Chronicles 8:16, NIV). Some projects in this research illustrated the outcomes that can occur when project scopes are changed. Deliverables are not achieved and waste occurs.

Scope management and communication management were undertaken by Solomon in this building project. The focus was on the project, even during the change of project managers from King David to King Solomon. Solomon appointed gatekeepers by divisions as David instructed, and those individuals did not deviate from the tasks (2 Chronicles 8:14-15, NIV). Projects C1 and C4 in this research illustrated effects caused by deviations from the prescribed tasks, which allowed the scope and communication processes to be mismanaged.

The tools and techniques used by Solomon were utilized to maximize the distribution of labor and assign specific tasks to expertly skilled tradesmen. Crews of ten thousand men worked

in shifts, including eighty thousand stonecutters and craftsmen who prepared timber (1 Kings 5:14-18, NIV). Using expert judgment is a useful tool and technique to insure processes are provided with relevant and needed information. Projects A1, B1, C2, and C3 used expert judgment to insure certain aspects of the projects were designed and executed properly. Use of poor expert judgment in Projects C1 and C4 resulted in poor management decisions and less-than-desirable outcomes. The use of expert judgment and good project management processes were also demonstrated in Nehemiah's work to rebuild the wall around Jerusalem.

Nehemiah Rebuilds the Wall

Nehemiah presented himself as a different project manager than Solomon. As king, Solomon not only directed the temple project, but he was also in full control of the budget. To rebuild the wall around Jerusalem, Nehemiah had to initiate the project. "If it pleases the king and if your servant has found favor in his sight, let him send me to the city in Judah where my fathers are buried sot that I can rebuild it" (Nehemiah 2:5, NIV).

Initiating the project by Nehemiah was similar to the start of projects in this research. The initiating stage required approval from the stakeholders and the commitment of resources for the project. All projects in this study required approval prior to moving from the initiating stage to the planning stage.

In the planning process group, Nehemiah defined the scope of rebuilding the city wall with a clearly established time frame and the resources needed; he also managed communication and used expert judgement (Nehemiah 2:5-8, NIV). Management of communication was critical to Nehemiah's project and remains critical in all projects. Research showed lack of communication lead to issues with Project C1 and C4. Over communication, as noted by the

project manager of Project A1, illustrated the importance of effective communication in making the project successful. Nehemiah communicated his plan to the stakeholders affected by the project. The plans of rebuilding the wall were communicated to the workers and the distractors (Nehemiah 2:18-20, NIV).

Execution was a critical process for any project. "All hard work brings a profit, but mere talk lead only to poverty" (Proverbs 14:23, NIV). In Nehemiah's project, he needed to execute the plan in a timely manner as "others plotted together to come and fight against Jerusalem and stir up trouble against it." (Nehemiah 4:8, NIV).

Whether passive or active, there were deterrents against projects in this study. Internal and external forces consumed resources and limited the efficiency of the team members. Nehemiah's project also had a reduction in efficiencies as "…half of my men did the work, while the other half were equipped with spears, shield, bows, and armor. Those who carried material did their work with one hand and held a weapon in the other" (Nehemiah 4:16-17, NIV).

Projects in this study were not subjected to the physical threats of attack that Nehemiah and his men faced, but any threat (physical or emotional) to a process required resources to address. Mediating or mitigating these risks are critical aspects to project management. Certain risks in Project C1 and C4 were not properly addressed and impacted the deliverables. Nehemiah's project had shown that there will be risks associated with any project, but to be dutiful and attentive is good project management.

Recommendation for Action

The research reflected missed deliverables due to the mismanagement of the condensed project life cycle. Three major actions can be taken by stakeholders in the U.S. meat industry to

improve project deployment and implementation. First, a formal project management process and a Project Management Office (PMO) can be established by organizations in which the PMOs have been shown to improve the implementation of projects in various industries, such as construction, IT, and manufacturing. Secondly, actions can be taken to educate and structure a collaboration with customers to understand and avoid the condensing of project life cycles. The third area of action can reduce the waste generated by mismanaged projects.

First, the problem addressed by this study was initiated by condensing the time and the life cycle of projects. This compression of the project life cycle was influenced by several factors in which internal and external stakeholders were complicit. No project in the study was managed through a formal PMO.

Companies in this study, and those that comprise the U.S. meat industry, have managed projects differently. These companies have been described as functional organizations, which have more difficult structures in place that challenge the implementation of project management (Project Management Institute, 2013). The functional organizations have typically operated in a manner reflected by a silo mentality and highly defined functions.

By implementing a PMO and the formal project management principles outlined in the PMBOK, problems identified in this study could have been avoided. The study showed the effects of mismanaged projects contributed to discontented project team members, missed deliverables, and increased waste. A PMO can provide the stability and structure needed to mitigate these issues and provide a formal bridge to implement the second recommendation.

Secondly, the education of the customer and consumer regarding realistic product deliverables needed to be initiated. When the consumer demands new and varied products with

unrealistic time periods, additional stress is placed on the entire food chain. Compounding this issue was the increased pressure by consumers to improve sustainability. Sustainability continues to be a concern of the perishable food supply chain management (Kaipia, Dukovska-Popovska, & Loikkanen, 2013).

Research has shown that consumers who demand socially responsible products have a specific attitude and intention to buy those products (Graafland, 2017). With increased demands for products that meet consumers' desires, sustainability, and social responsibility, this study can be used to educate the consumer on the effects of compression of the product life cycle. Specifically, the PMO can outline the process of project management with customers so realistic project completion dates can be established. Part of this education can illustrate what waste can be avoided by following formalize project management, which leads to the third action plan of waste reduction.

Finally, waste was incurred in all the projects explored in this study. Reduction of waste is beneficial to the environment, sustainability, and the financial well-being of organizations in food manufacturing and other industries. Food waste across all sectors of food processing was identified as lack of control in production and processing (Canali, Amani, Aramyan, Gheoldus, Moates, Ostergren, Silvennoinen, Waldron, & Vittuari, 2017). Although some projects indicated the customer applied pressure to shorten the project life cycle, data showed the processor exhibited most of the control.

Controlling the process of projects will lay the foundation for waste reduction. The study showed multiple factors contributed to waste of labor, time, and raw materials. With formal processes controlled by the PMO, waste can be reduced. But, the first step needs to be the

acceptance and willingness of organizations to embrace PMO and release some control of their functional structures.

Actions to Disseminate Plan to Those Impacted

The meat industry has been shown to be secluded and wary of media exposure. Yet, several industry media formats and lobbying trade groups can disseminate the information from this research to stakeholders, which can be beneficial. The Project Management Institute (PMI) is another vehicle through which this research can reach Project Managers and practitioners of project management.

The American Meat Institute (AMI), now the North American Meat Institute (NAMI), was founded in 1906 and actively advocates for its processors and equipment manufacturer members (NAMI website, 2017). This organization is an example of memberships from two major industry stakeholder groups impacted by this research. Another industry organization to potentially communicate this research would be the National Chicken Counsel (NCC). The NCC was founded in 1954 with the mission to communicate with legislators and the media about aspects of processing and product while promoting and protecting the image of the industry (NCC website, 2017). Other regional organizations can be utilized to engage and educate industry members on the relevance of this research.

Trade magazines such as *The National Provisioner*, *Meat and Poultry*, and *Meatingplace* are forums that can deliver the information from this research to a broad audience. The websites from these industry magazines reach additional viewers who could benefit from the outcomes of this research study. Other journals, such as the *International Journal of Project Management*, can be utilized to present the findings from this research through publication.

Dissemination of the research needs to be succinct and easily digested by the readers. A white paper presented at an annual trade convention, such as the Process Expo, International Poultry Expo, Project Management Global Conference, and other trade conferences, could reach additional audiences in clear and concise ways. The data should be conveyed in a manner that clearly portrays the benefits of fully engaging in project management.

Recommendations for Further Study

This research study explored management of projects in the U.S. consumer ready meat industry. Little research on the U.S. meat industry existed that provided any basis for the field of project management's role in this industry. With little research and information on the organizational dynamics of U.S. meat companies, further research in the area of organizational behaviors and the role of project management in different organizations would be beneficial.

This study showed that waste had been incurred in all projects, which could have been minimized or eliminated with better project management. Non-renewable raw materials in the food supply chain cannot be wasted because the future projections for population growth will challenge the food supply. Challenges to the future global food supply include: shortage of land, increased food demand, and population growth (Jose Ibarrola-Rivas & Nonhebel, 2016).

Interpersonal skills of different project managers impacted projects' deliverables. Further in-depth study of project managers would be beneficial to the body of knowledge for project management. Why are some project managers more successful? Would a project manager from various industries perform differently in an alien industry?

Although the PMBOK identifies communication channels as C$n = n(n\text{-}1)/2$ where C is the number of channels and n is the number of team members, it does not explore the impact

circumvented communication channels could have on a project (Project Management Institute, 2013). Whether intentional or inadvertent, communication anomalies challenged Project C1 and C4. Further research would lend itself to explore how and why communication channels are manipulated by stakeholders.

Reflections

Preconceived Ideas

Undertaking this research led me to experience a deeper understanding of the meat industry, to better understand different research methods, and to gain more knowledge of project management. My initial thought was that external stakeholders caused the shortening of the project life cycle and impacted the mismanagement of those projects. Gaining the shared perspectives of individuals engaged with each project enabled me to understand that most of the project issues were self-inflicted problems caused by senior management.

Possible Biases

Having previously worked with the participants on these projects in various roles provided me with an insight not otherwise available to other researchers. In the role of Participant Observer, I engaged the projects in the typical manner of each organization with little effort to deviate or change other participants' behaviors or actions. A possible bias I confronted was my previous employment with these organizations and pre-existing collegial relationships with the participants.

Possible Effects of the Researcher

Participants were selected based on their involvement with specific projects. Questions were posed to these participants to elicit information related to their personal and emotional

experiences with the actions in those projects. To minimize any effect I might have on the participants' answers, I did not respond to or elaborate on my feelings or thoughts related to the answers provided during the interviews. The interview questions were asked to prompt a deeper emotional response in order to provide more insight to the personal feelings caused by involvement with the projects. By not being employed by any of the organizations at the time of the interviews, the perceived or actual effects I could have on the participants was minimized. I could not have influenced any of the activities or responses provided by the individuals participating in this research study.

Change of Thinking

My perception of projects in the meat industry shifted. I was at first grounded in simple processes with tangible, mechanical, and product outputs, but my mindset was transformed to understand the meat industry as a unique and volatile network of personal interactions. I did not place much value on the importance of interpersonal skills, communication, or network theory in project management prior to this study. Twenty-nine years in the meat industry had hardened my "soft-skills," and I was left to consider only the results of projects. I did not see the value in the the interactions, the key roles of individuals, and the unique skills multiple stakeholders bring to a project.

Interviewing these individuals changed my perception of project management and made me more aware of and reliant on managing people and emotions. Examining the projects and feeling the emotions described during the interviews altered the prism from which I had previously approached projects. Understanding the cause-and-effects of personal actions involving stakeholders was discovered through the interviews.

Reflection of Biblical Principles

Projects of any type require engagement of individuals and raw materials. God designed man to work and provided unique gifts to each one (Van Duzer, 2010). Project management is the coordinated activities of initiating, planning, executing, monitoring and controlling, and closing (Project Management Institute, 2013).

The Bible describes multiple projects that followed the outline of project management. These projects illustrated success of projects through planning, segmented skilled tasks, communications, and raw material sourcing and sustainability. Additional examples were also described to demonstrate how deviating from project plans resulted in negative and costly outcomes, as the plans of the righteous are just, but the advice of the wicked is deceitful (Proverbs 12:5, NIV).

For projects in the meat industry, or any industry, project managers are to follow God's instruction to be stewards of the land, as God took man and put him in the Garden of Eden to work it and to keep it (Genesis 2:15, NIV). It is the responsibility of leaders in the food industry, specifically the meat industry, to care for the input resources as the righteous care for the needs of their animals (Proverbs 12:10, NIV). God gave man dominion over the earth and livestock (Genesis 1:26, NIV). Therefore, thoughtful and intentional project management is needed to incorporate God's instructions to care for the resources and work toward eliminating waste in projects due to mismanagement.

As individuals, we are each a project in development. We can examine our lives as a project life cycle, and we can apply Biblical principles to manage our lives. This research explored the mismanagement of condensed project life cycles. Rushing to get a project

completed negatively impacted the project and lead to more waste. In these projects, the ends do not justify the means as increased waste occurred. Similarly, man's eagerness to complete life projects can lead to shortcuts and a lack of thoughtful reflection, thus leading to mismanagement and waste.

Trying to rush the plans God has defined for us can only lead to stress and frustration. These words were also used by research participants as they described how aspects of the project made them feel. Rushing without knowledge is not good because "how much more will hasty feet miss the way" (Proverbs 19:2, NIV). Project management has its foundations in Biblical instructions, examples, and encouragement. As with project planning, the plans of the diligent lead to an advantage (Proverbs 21:5, NIV). Men make plans, but the Lord establishes their steps (Proverbs 16:9, NIV).

Summary and Study Conclusion

This paper sought to understand the impact condensed project life cycles had on the mismanagement of projects in the U.S. consumer ready meat industry. The qualitative study explored the activities of six participants and one Participant Observer to better understand the effects of mismanaged projects. The interviews exposed a deeper understanding and a richer explanation of the interconnectivity between the actors involved with the U.S. meat industry and project management.

Five research questions were posed to provide conversational guidance and to insights about how the mismanagement of project life cycles impacted projects, organizations, and individuals. The in-depth emotional connection with which participants described each project supported the Actor-Network-Theory (ANT) and provided an overarching theme via the

sociology of association. ANT claimed actors were made to do things by other agencies in which they had no control, and yet, ANT further traced those relationships as networks (although temporary) and relationships were formed (Latour, 2005).

Actions were taken by actors in all six projects, and the five research questions explored both the human and non-human actors involved with the projects. Deliverables of projects were described as factual, tangible entities, such as on-time completion, within budget, and had met customers' expectation. Some projects met those deliverables with little impact from the condensed project life cycle. Why?

The overarching results from this study was the impact the human actors had on projects. Regardless of the life cycle duration, truncation, or deliverables, human activity impacted all stages and outcomes of projects. Secondly, waste was incurred in all projects and varied depending on various factors, such as the individuals, project complexity, and life cycle. These two main areas are detailed further by each research question.

Research question one revealed that all projects explored incurred waste through the project life cycle. Condensed project life cycles in Projects C1 and C4 demonstrated more mismanagement than the other four projects, and those projects had the highest waste of materials, products, and labor. Project C3 had the most condensed project life cycle, yet demonstrated the least amount of waste. It could be concluded that the reason for the least amount of waste was the least number of stakeholders, less complexity, and known technology.

Research question two exposed an opposite impact on the different projects. Projects A1, B1, C2, and C3 used expert judgment to facilitate different aspects of the project life cycle. The selected experts were beneficial to the project's ability to achieve the desired deliverables.

Participants identified the use of expert judgment as critical to the project's success. Expert judgment used in Projects C1 and C4 negatively impacted the decisions made. Millions of dollars were wasted in Project C1 because the experts did not provide accurate information to allow proper decisions to be made. Project C4 also used multiple experts to implement the production process, which caused delays and inadequate processing equipment to be installed. Complicating Project C4 was the quality and ineffectiveness of communication between the project manager and various stakeholders.

Research question three discovered that only Project C3 provided benefits due to the shortened project life cycle. With only three decision-making individuals involved with the project and a life cycle of one week, scope creep was eliminated, and stakeholders did not have time to interact with the project's completion. The critical nature of the project to be completed for customer approval contributed to and benefitted the project. All other projects were either neutral or had negative effects caused by the shortened project life cycle.

Research question four impacted all projects in this research. Interpersonal skills included the ability to communicate with all levels of management, different departments, and equipment manufacturers. Lack of interpersonal skills in Project C1 catalyzed the mid-project removal of the original project manager, who was replaced by a project manager with superior interpersonal skills. Project C3 had such a condensed project life cycle that interpersonal skills could neither be observed nor could have impacted the management of the project life cycle. The remaining projects did not provide enough information from the participants to accurately answer this question.

Research question five showed negative results in two of the six projects because of a shortened project life cycle and subsequent mismanagement. Projects C1 and C4 did not meet their deliverables and incurred significant waste. Project C3 had the greatest condensed project life cycle but still met its deliverables. The remaining three projects were not negatively altered and met the deliverables.

This paper sought to explore project mismanagement in the U.S. consumer ready meat industry. Projects were drivers for this industry and critical for new products, improved processes, and effective utilization of raw materials. Pressure to condense the project life cycle was shown to negatively impact the deliverables of five of the six projects to varying degrees. One project demonstrated a positive impact on its deliverables due to the shortened project life cycle, although all of the participants indicated that luck had a part to play in its success since unique processing equipment was found to meet the deadline.

This qualitative research was one of the first studies to have explored project management in the U.S meat industry and closed the gap in literature related to project management in the industry. On the surface, condensing the project life cycle may appear to be a means in which to deliver results sooner, but these projects reflected negative impacts to stakeholders, deliverables, and the industry. As these projects were representative of the industry, one could conclude that the U.S. meat industry has been reactionary to the needs and desires of consumers, which has contributed to the condensed project life cycle and led to mismanagement and, ultimately, unmet deliverables.

The impact from the mismanaged project life cycles shown in this research provided insight and direction for further studies to benefit meat processors, equipment manufacturers,

consumers, and project managers. Although a project has been defined as a temporary endeavor, the multiple and ongoing projects in the U.S. meat industry demonstrated in this study were shown to affect many stakeholders. The Actor-Network-Theory (ANT) could be applied to projects undertaken in other industries to better understand the sociology of association and to explore better methods and processes that can add to the project management body of knowledge (PMBOK).

References

Abbaszadeh, M. (2015). Validity, reliability, and generalizability in qualitative researches. *Journal of Family Medicine and Primary Care, 4*(3), 324-327. doi: 10.4103/2249-4863.161306

Agarchand, N., & Laishram, B. (2017). Sustainable infrastructure development challenges through PPP procurement process: Indian perspective. *International Journal of Managing Projects in Business, 10*(3), 642-662. Doi: 10.1108/IJMPB-10-2016-0078

Agigi, A., Niemann, W., & Kotzé, T. (2016). Supply chain design approaches for supply chain resilience: A qualitative study of South African fast-moving consumer goods grocery manufacturers. *Journal of Transport and Supply Chain Management, 10*(1), e1-e15. doi:10.4102/jtscm.v10i1.253

Ahimbisibwe, A., Cavana, R. Y., & Daellenbach, U. (2015). A contingency fit model of critical success factors for software development projects: A comparison of agile and traditional plan-based methodologies. *Journal of Enterprise Information Management, 28*(1), 7-33. doi:10.1108/JEIM-08-2013-0060

Ahmed, R., & bin Mohamad, N. A. (2016). Exploring the relationship between multi-dimensional top management support and project success: An international study. *Engineering Management Journal, 28*(1), 54-67. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1779244749?accountid=12085

Ahmedshareef, Z., Hughes, R., & Petridis, M. (2014). Exposing the influencing factors on software project delay with actor-network theory. *Electronic Journal of Business*

Research Methods, 12(2), 132-146. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1627119502?accountid=12085

Ahsan, K., Ho, M., & Khan, S. (2013). Recruiting project managers: A comparative analysis of competencies and recruitment signals from job advertisements. *Project Management Journal, 44*(5), 36-54. doi:10.1002/pmj.21366

Al-Ahmad, W., Al-Fagih, K., Khanfar, K., Alsamara, K., Abuleil, S., & Abu-Salem, H. (2009). A taxonomy of an IT project failure: Root causes. *International Management Review, 5*(1), 93-104,106. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/195546967?accountid=12085

Albrecht, J. C., & Spang, K. (2014). Linking the benefits of project management maturity to project complexity. *International Journal of Managing Projects in Business, 7*(2), 285-301. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1508442600?accountid=12085

Alecu, F. (2012). Software development factories, the project management perspective. *Oeconomics of Knowledge, 4*(1), 14-21. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1220449926?accountid=12085

Ali, A., & Nisar, A. (2016). Conceptualizing IT governance principles at strategic projects level. *International Journal of Computer Science and Information Security, 14*(8), 898-907.

Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1876357811?accountid=12085

Allen, M., Alleyne, D., Farmer, C., McRae, A., & Turner, C. (2014). A framework for project success. *Journal of Information Technology and Economic Development, 5*(2), 1-17. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1680951555?accountid=12085

Allen, M., Carpenter, C., Hutchins, M., & Jones, G. (2015). Impact of risk management on project cost: An industry comparison. *Journal of Information Technology and Economic Development, 6*(2), 1-19. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1778454980?accountid=12085

Allen, S. (2015). Risk research trends in the project environment. *Journal of Management & Engineering Integration, 7*(2), 28-36. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1674272184?accountid=12085

Almahmoud, E. S., Doloi, H. K., & Panuwatwanich, K. (2012). Linking project health to project performance indicators: Multiple case studies of construction projects in Saudi Arabia. *International Journal of Project Management, 30*(3), 296-307. doi: 10.1016/j.ijproman.2011.07.001

Almutairi, A. F., Gardner, G. E., & McCarthy, A. (2014). Practical guidance for the use of a pattern-matching technique in case-study research: A case presentation. *Nursing & Health Sciences, 16*(2), 239-244. doi:10.1111/nhs.12096

Amrit, C., van Hillegersberg, J., & van Diest, B. (2013). Involving end users to mitigate risk in IS development projects. *Journal of Organizational and End User Computing, 25*(3), 67+. Retrieved from http://ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?p=GRGM&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA345457939&sid=summon&asid=0ee7565a7aafcea9dfcd9de7f72e4a67

An, S., Woo, S., Cho, C., & Lee, S. (2017). Development of budget-constrained rescheduling method in mega construction project. *KSCE Journal of Civil Engineering, 21*(1), 85-93. doi:10.1007/s12205-016-0966-7

Anand, N., & Grover, N. (2015). Measuring retail supply chain performance: Theoretical model using key performance indicators (KPIs). *Benchmarking: An International Journal, 22*(1), 135-166. doi:10.1108/BIJ-05-2012-0034

Andersen, B., Samset, K., & Welde, M. (2016). Low estimates – high stakes: Underestimation of costs at the front-end of projects. *International Journal of Managing Projects in Business, 9*(1), 171-193. doi:10.1108/IJMPB-01-2015-0008

Angel, S. (2013). Grasping the experience of the other from an interview: Self-transposition in use. *International Journal of Qualitative Studies on Health and Well-being, 8*(1), 1-8. doi: 10.3402/qhw.v8i0.20634

Annink, A. (2017). Using the research journal during qualitative data collection in a cross-cultural context. *Entrepreneurship Research Journal, 7*(1), 223-17. doi: 10.1515/erj-2015-0063

Araújo, Cíntia Cristina Silva de, & Pedron, C. D. (2015). The IT project manager competencies that impact project success – A qualitative research. *Organisational Project Management, 2*(1), 53-75. doi:10.5130/opm.v2i1.4142

Arcese, G., Flammini, S., Lucchetti, M. C., & Martucci, O. (2015). Evidence and experience of open sustainability innovation practices in the food sector. *Sustainability, 7*(7), 8067-8090. doi:10.3390/su7078067

Arif, M., Jubair, M., & Ahsan, A. (2015). Use of result based management (RBM) framework for monitoring projects of public sector in Pakistan – A case study. *International Journal of Innovation, Management and Technology, 6*(2), 130-135. doi: 10.7763/IJIMT.2015.V6.589

Arvidsson, I., Balogh, I., Hansson, G., Ohlsson, K., Akesson, I., & Nordander, C. (2012). Rationalization in meat cutting - consequences on physical workload. *Applied Ergonomics, 43*(6), 1026. doi: 10.1016/j.apergo.2012.03.001

Asrar-ul-Haq, M., & Anwar, S. (2016). A systematic review of knowledge management and knowledge sharing: Trends, issues, and challenges. *Cogent Business & Management, 3*(1) doi:10.1080/23311975.2015.1127744

Aubry, M., Sicotte, H., Drouin, N., Vidot-Delerue, H., & Besner, C. (2012). Organizational project management as a function within the organization. *International Journal of Managing Projects in Business, 5*(2), 180-194. doi: 10.1108/17538371211214897

Austin, Z., McVittie, A., McCracken, D., Moxey, A., Moran, D., & White, P. C. L. (2015). Integrating quantitative and qualitative data in assessing the cost-effectiveness of biodiversity conservation programmes. *Biodiversity and Conservation, 24*(6), 1359-1375. doi:10.1007/s10531-015-0861-4

Azad, N. (2012). Investigating important factors influencing purchasing from chains. *Management Science Letters, 2*(3), 805-810. doi: j.msl.2011.12.015

Azanha, A., Ana Rita Tiradentes Terra Argoud, João Batista de Camargo Junior, & Antoniolli, P. D. (2017). Agile project management with scrum: A case study of a Brazilian pharmaceutical company IT project. *International Journal of Managing Projects in Business, 10*(1), 121-142. doi: 10.1108/IJMPB-06-2016-0054

Badal, A. (2013). Organizational knowledge management movement strategies. *Journal of Knowledge Management, 3*(3), 27-31. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Dissertation,f%7CContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-01-01:2017-06-18&l=en&q=(knowledge%20management)&oaf=t

Badewi, A. (2016). The impact of project management (PM) and benefits management (BM) practices on project success: Towards developing a project benefits governance framework. *International Journal of Project Management, 34*(4), 761-778. doi: 10.1016/j.ijproman.2015.05.005

Bal, M., Bryde, D., Fearon, D., & Ochieng, E. (2013). Stakeholder engagement: Achieving sustainability in the construction sector. *Sustainability, 5*(2), 695-710. doi:10.3390/su5020695

Banda Jr., R. K., & Pretorius, L. (2016). The effect of scope definition on infrastructure projects: A case in Malawi's public and private implementing agencies. *South African Journal of Industrial Engineering, 27*(4), 203-214. doi:10.7166/27-4-1562

Bansback, B. (2014). Future directions for the global meat industry? *Eurochoices, 13*(2), 4-11. doi:10.1111/1746-692X.12056

Barbut, S. (2012). Convenience breaded poultry meat products - new developments. *Trends in Food Science & Technology, 26*(1), 14. doi: 10.1016/j.tifs.2011.12.007

Barbut, S. (2014). Review: Automation and meat quality-global challenges. *Meat Science, 96*(1), 335-345. doi: 10.1016/j.meatsci.2013.07.002

Barth, H., Ulvenblad, P., & Ulvenblad, P. (2017). Towards a conceptual framework of sustainable business model innovation in the agri-food sector: A systematic literature review. *Sustainability, 9*(9), 1620. doi:10.3390/su9091620

Behjati, S. (2017). First-hands' contribution in business inquiry based on qualitative inquiry of assessing environmentalism initiatives. *Management of Sustainable Development, 9*(1), 39-42. doi: 10.1515/msd-2017-0013

Bekker, M. C. (2014). Project governance: "Schools of thought". *South African Journal of Economic and Management Sciences, N.S, 17*(1), 22-32. doi:10.4102/sajems.v17i1.595

Belk, K. E., Woerner, D. R., Delmore, R. J., Tatum, J. D., Yang, H., & Sofos, J. N. (2014). The meat industry: Do we think and behave globally or locally? *Meat Science, 98*(3), 556. doi: 10.1016/j.meatsci.2014.05.023

Bell, L., Van Waveren, C. C., & Steyn, H. (2016). Knowledge-sharing within the project-based organisation: A knowledge-pull framework. *South African Journal of Industrial Engineering*, *27*(4), 18-33. doi:10.7166/27-4-1580

Ben Mahmoud-Jouini, S., Midler, C., & Silberzahn, P. (2016). Contributions of design thinking to project management in an innovation context. *Project Management Journal, 47*(2), 144-156. doi:10.1002/pmj.21577

Bentahar, O., & Cameron, R. (2015). Design and implementation of a mixed method research study in project management. *Electronic Journal of Business Research Methods, 13*(1), 3-15. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1759174670?accountid=12085

Berterö, C. (2015). Developing qualitative methods - or "same old wine in a new bottle". *International Journal of Qualitative Studies on Health and Well-being, 10*(1), 1-2. doi: 10.3402/qhw.v10.27679

Besner, C., & Hobbs, B. (2012). An empirical identification of project management toolsets and a comparison among project types. *Project Management Journal, 43*(5), 24-46. doi: 10.1002/pmj.21292

Bidart, C., & Cacciuttolo, P. (2013). Combining qualitative, quantitative and structural dimensions in a longitudinal perspective. The case of network influence. *Quality & Quantity, 47*(5), 2495-2515. doi:10.1007/s11135-012-9667-6

Bigliardi, B., & Galati, F. (2013). Models of adoption of open innovation within the food industry. *Trends in Food Science & Technology, 30*(1), 16-26. doi: 10.1016/j.tifs.2012.11.001

Biskupek, A. (2016). The research of stakeholder power impact on project implementation. *Trendy Ekonomiky a Managementu, 10*(27), 9-19. doi: 10.13164/trends.2016.27.9

Blaikie, N. W. H. (2003). *Analyzing quantitative data: From description to explanation* (1st ed.). Thousand Oaks, CA: London; Sage Publications.

Blair, E. (2016). A reflexive exploration of two qualitative data coding techniques. *Journal of Methods and Measurements in the Social Sciences, 6*(1), 14-29. doi:10.2458/jmm.v6i1.18772

Bodak, A., Cierniak-Emerych, A., Gableta, M., Pietroń-Pyszczek, A., & Piwowar-Sulej, K. (2016). Dilemmas of human potential management, from the viewpoint of employment security. *Management, 20*(1), 8-26. doi:10.1515/manment-2015-0021

Bolin, A. U. (2012). Salvaging value from project failure. *Performance Improvement, 51*(5), 12-16. doi:10.1002/pfi.21262

Bönigk, M., & Steffgen, G. (2013). Effects of habitual anger on employees' behavior during organizational change. *International Journal of Environmental Research and Public Health, 10*(12), 6215-34. Retrieved from

http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1494553056?accountid=12085

Borštnar, M. K., & Pucihar, A. (2014). Impacts of the implementation of a project management information system – a case study of a small R&D company. *Organizacija, 47*(1), 14-23. doi:10.2478/orga-2014-0002

Botchkarev, A., & Finnigan, P. (2015). Complexity in the context of information systems project management. *Organisational Project Management, 2*(1), 15-34. doi:10.5130/opm.v2i1.4272

Brennan, M. A., Derbyshire, E., Tiwari, B. K., & Brennan, C. S. (2013). Ready-to-eat snack products: The role of extrusion technology in developing consumer acceptable and nutritious snacks. *International Journal of Food Science & Technology, 48*(5), 893–902. doi:10.1111/ijfs.12055

Brewer, G., & Strahorn, S. (2012). Trust and the project management body of knowledge. *Engineering, Construction and Architectural Management, 19*(3), 286-305. doi: 10.1108/09699981211219616

Brookfield, D., Fischbacher-Smith, D., Mohd-Rahim, F., & Boussabaine, H. (2014). Conceptualising and responding to risk in IT projects. *Risk Management, 16*(3), 195-230. doi: 10.1057/rm.2014.10

Brundiers, K., & Wiek, A. (2017). Beyond interpersonal competence: Teaching and learning professional skills in sustainability. *Education Sciences, 7*(1), 1-19. doi:10.3390/educsci7010039

Bubel, D. (2015). Globalization and knowledge management in projects. *Foundations of Management, 7*(1), 19-28. doi:10.1515/fman-2015-0022

Butt, S. A., & Jamal, T. (2017). Frequent change request from user to handle cost on project in Agile Model. *Asia Pacific Journal of Multidisciplinary Research, 5*(2), 26-42. Retrieved from http://www.apjmr.com/wp-content/uploads/2017/04/APJMR-2017.5.2.04.pdf

Cameron, R., Sankaran, S., & Scales, J. (2015). Mixed methods use in project management research. *Project Management Journal, 46*(2), 90-104. doi:10.1002/pmj.21484

Canali, M., Amani, P., Aramyan, L., Gheoldus, M., Moates, G., Östergren, K., Silvennoinen, K., Waldron, K., & Vittuari, M. (2016). Food waste drivers in Europe, from identification to possible interventions. *Sustainability, 9*(1), 37. doi:10.3390/su9010037

Castillo-Montoya, M. (2016). Preparing for interview research: The interview protocol refinement framework. *The Qualitative Report, 21*(5), 811-830. Retrieved from http://ezproxy.liberty.edu/login?url=https://search-proquest-com.ezproxy.liberty.edu/docview/1806967398?accountid=12085

Ceri-Booms, M., Curseu, P. L., & Oerlemans, L. A. G. (2017). Task and person-focused leadership behaviors and team performance: A meta-analysis. *Human Resource Management Review, 27*(1), 178-192. doi: 10.1016/j.hrmr.2016.09.010

Chanda, S. S., & Ray, S. (2016). Learning from project failure: Globalization lessons for an MNC: Project failure in an MNC. *Thunderbird International Business Review, 58*(6), 575-585. doi:10.1002/tie.21776

Charhate, H. (2016). Studying the implications of applying gamification technique on knowledge management in projects. *International Journal of Latest Trends in Engineering and Technology, 7*(2), 198-208. doi: 10.21172/1.72.533

Chen, H. L. (2015). Performance measurement and the prediction of capital project failure. *International Journal of Project Management, 33*(6), 1393-1404. doi: 10.1016/j.ijproman.2015.02.009

Cheng, C., James J H Liou, & Chiu, C. (2017). A consistent fuzzy preference relations based ANP model for R&D project selection. *Sustainability, 9*(8), 1352. doi:10.3390/su9081352

Chipulu, M., Ojiako, U., Gardiner, P., Williams, T., Mota, C., Maguire, S., . . . Marshall, A. (2014). Exploring the impact of cultural values on project performance: The effects of cultural values, age and gender on the perceived importance of project success/failure factors. *International Journal of Operations & Production Management, 34*(3), 364-389. doi:10.1108/IJOPM-04-2012-0156

Chou, J., & Yang, J. (2012). Project management knowledge and effects on construction project outcomes: An empirical study. *Project Management Journal, 43*(5), 47-67. doi: 10.1002/pmj.21293

Chou, J., Irawan, N., & Pham, A. (2013). Project Management Knowledge of Construction Professionals: Cross-Country Study of Effects on Project Success. *Journal of Construction Engineering & Management, 139*(11), 1. doi:10.1061/(ASCE)CO.1943-7862.0000766

Chou, S., Yu, C., & Tzeng, G. (2016). A novel hybrid MCDM procedure for achieving aspired earned value project performance. *Mathematical Problems in Engineering, 2016*, 1-16. doi:10.1155/2016/9721726

Clandinin, D. J. (2006). Narrative inquiry: A methodology for studying lived experience. *Research Studies in Music Education, 27*(1), 44-54. doi:10.1177/1321103X060270010301

Clark, A. M., & Sousa, B. J. (2015). New possibilities and chapters: Qualitative research and the international journal of qualitative methods. *International Journal of Qualitative Methods, 14*(4), 160940691561413. doi:10.1177/1609406915614130

Clinning, G., & Marnewick, C. (2017). Incorporating sustainability into IT project management. *South African Computer Journal, 29*(1), 1-26. doi:10.18489/sacj.v29i1.398

Collins, C. S., & Cooper, J. E. (2014). Emotional intelligence and the qualitative researcher. *International Journal of Qualitative Methods, 13*(1), 88-103. doi:10.1177/160940691401300134

Conforto, E. C., Salum, F., Amaral, D. C., da Silva, S. L., & Magnanini de Almeida, L. F. (2014). Can agile project management be adopted by industries other than software development? *Project Management Journal*, *45*(3), 21-34. doi:10.1002/pmj.21410

Connelly, L. M., & Peltzer, J. N. (2016). Underdeveloped themes in qualitative research: Relationship with interviews and analysis. *Clinical Nurse Specialist, 30*(1), 52-57. doi:10.1097/NUR.0000000000000173

Cooper, R. G., & Sommer, A. F. (2016). The Agile-Stage-Gate Hybrid Model: A promising new approach and a new research opportunity. *The Journal of Product Innovation Management, 33*(5), 513-526. doi: 10.1111/jpim/12314

Cram, W. A. (2012). Aligning organizational values in systems development projects. *Management Research Review, 35*(8), 709-726. doi: 10.1108/01409171211247703

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Los Angeles, CA: SAGE Publications.

Crnković, D., & Vukomanović, M. (2016). Comparison of trends in risk management theory and practices within the construction industry. *Elektronički Časopis Građevinskog Fakulteta Osijek, 7*(13), 1-11. doi:10.13167/2016.13.1

Cullen, K., & Parker, D. W. (2015). Improving performance in project-based management: Synthesizing strategic theories. *International Journal of Productivity and Performance Management, 64*(5), 608-624. doi:10.1108/IJPPM-02-2014-0031

Czarniawska-Joerges, B. (1998). *A narrative approach to organization studies*. Thousand Oaks, CA: SAGE Publications.

da Silva Eiras, F. C., Tomomitsu, H. T. A., Linhares, I. M. P., & de Carvalho, M. M. (2017). Evolution of project management research: A bibliometric study of international journal of project management. *GEPROS: Gestão Da Produção,* 12(1), 211-234. doi:10.15675/gepros.v12i1.1617

Daluiso, B. (2012). "Is the meat here safe?" How strict liability for retailers can lead to safer meat. *Boston University Law Review, 92*(3), 1081-1125. Retrieved from

http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1328333402?accountid=12085

Dass, K. R. (2012). Value of ISO 90003 customer requirement guidelines to improve IT project success. *Software Quality Professional, 15*(1), 24-32. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1432016418?accountid=12085

de Bakker, E., & Dagevos, H. (2012). Reducing meat consumption in today's consumer society: Questioning the citizen-consumer gap. *Journal of Agricultural and Environmental Ethics, 25*(6), 877-894. doi: 10.1007/s10806-011-9345-z

de Guimarães, Julio Cesar Ferro, Severo, E. A., & Vieira, P. S. (2017). Cleaner production, project management and strategic drivers: An empirical study. *Journal of Cleaner Production, 141*, 881-890. doi: 10.1016/j.jclepro.2016.09.166

De O. Luna, A. J. H., Kruchten, P., do E. Pderosa, M. L. G., de Almeida Neto, H. R., & de Moura, H. P. (2014). State of the art of agile governance: A systematic review. *International Journal of Computer Science & Information Technology, 6*(5), 121-141. doi: 10.5121/ijcsit.2014.6510

de Souza, D. M., Petre, R., Jackson, F., Hadarits, M., Pogue, S., Carlyle, C. N., . . . McAllister, T. (2017). A review of sustainability enhancements in the beef value chain: State-of-the-art and recommendations for future improvements. *Animals, 7*(3), 26. doi:10.3390/ani7030026

Dennis, B. K. (2014). Understanding participant experiences: Reflections of a novice research participant. *International Journal of Qualitative Methods, 13*(1), 395-410. doi:10.1177/160940691401300121

Denny, R. C. H., Worosz, M. R., & Wilson, N. L. W. (2016). The importance of governance levels in alternative food networks: The case of red meat inspection rules. *Rural Sociology, 81*(4), 601-634. doi:10.1111/ruso.12103

Desai, D. A., Kotadiya, P., Makwana, N., & Patel, S. (2015). Curbing variations in packaging process through Six Sigma way in a large-scale food-processing industry. *Journal of Industrial Engineering International, 11*(1), 119-129. doi:10.1007/s40092-014-0082-6

Desmond, C. (2015). Project management office. *IEEE Engineering Management Review, 43*(1), 15-16. doi:10.1109/EMR.2015.2393512

Devi, A. C., & Ananthanarayanan, K. (2017). Factors influencing cost over-run in Indian construction projects. Paper presented at the, 120 02023. doi:10.1051/matecconf/201712002023

Devotta, K., Woodhall-Melnik, J., Pedersen, C., Wendaferew, A., Dowbor, T. P., Guilcher, S. J., . . . Matheson, F. I. (2016). Enriching qualitative research by engaging peer interviewers: A case study. *Qualitative Research, 16*(6), 661-680. doi:10.1177/1468794115626244

Didraga, O. (2013). The role and the effects of risk management in IT projects success. *Informatica Economica, 17*(1), 86-98. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1395397793?accountid=12085

Dikko, M. (2016). Establishing construct validity and reliability: Pilot testing of a qualitative interview for research in Takaful (Islamic insurance). *The Qualitative Report, 21*(3), 521-528. Retrieved from http://ezproxy.liberty.edu/login?url=https://search-proquest-com.ezproxy.liberty.edu/docview/1790488783?accountid=12085

Dillon, S., & Taylor, H. (2015). Employing grounded theory to uncover behavioral competencies of information technology project managers. *Project Management Journal, 46*(4), 90-104. doi:10.1002/pmj.21511

Dodes, L. M., & Dodes, J. (2016). The case study method in psychodynamic psychology: Focus on addiction. *Clinical Social Work Journa*l, 1-12. doi:10.1007/s10615-016-0610-5

D'Odorico, P., Carr, J. A., Laio, F., Ridolfi, L., & Vandoni, S. (2014). Feeding humanity through global food trade. *Earth's Future, 2*(9), 458-469. doi: 10.1002/2014EF000250

Doloi, H. (2013). Cost overruns and failure in project management: Understanding the roles of key stakeholders in construction projects. *Journal of Construction Engineering and Management, 139*(3), 267-279. doi:10.1061/(ASCE)CO.1943-7862.0000621

Dorussen, H., Lenz, H., & Blavoukos, S. (2005). Assessing the reliability and validity of expert interviews. European Union Politics, 6(3), 315-337. doi:10.1177/1465116505054835

Dou, Z., Ferguson, J. D., Galligan, D. T., Kelly, A. M., Finn, S. M., & Giegengack, R. (2016). Assessing U.S. food wastage and opportunities for reduction. *Global Food Security, 8*, 19-26. doi: 10.1016/j.gfs.2016.02.001

Drescher, L. S., Jonge, d., J, Goddard, E., & Herzfeld, T. (2012). Consumer's stated trust in the food industry and meat purchases. *Agriculture and Human Values, 29*(4), 507-517. doi:10.1007/s10460-012-9375-9

Duxbury, T. (2012). Towards more case study research in entrepreneurship. *Technology Innovation Management Review, 2*(3), 9-17. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1614473255?accountid=12085

Eadie, R., Browne, M., Odeyinka, H., McKeown, C., & McNiff, S. (2013). BIM implementation throughout the UK construction project lifecycle: An analysis. *Automation in Construction, 36*, 145-151. doi: 10.1016/j.autcon.2013.09.001

Eastham, J., Tucker, D. J., Varma, S., & Sutton, S. M. (2014). PLM software selection model for project management using hierarchical decision modeling with criteria from PMBOK knowledge areas. *Engineering Management Journal, 26*(3), 13-24. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1561957630?accountid=12085

Ebrahimnejad, S., Mousavi, S. M., Tavakkoli-Moghaddam, R., & Heydar, M. (2012). Evaluating high risks in large-scale projects using an extended VIKOR method under a fuzzy environment. *International Journal of Industrial Engineering Computations, 3*(3), 463-476. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Journal%20Article,f%7CContentType,Dissertation,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-01-01:2017-06-20&l=en&q=(life%20cycle%20of%20a%20project)&oaf=t

Eduardo, Y. S., & de Freitas Chagas, M. (2014). When do megaprojects start and finish? Redefining project lead time for megaproject success. *International Journal of Managing Projects in Business, 7*(4), 624. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1660695841?accountid=12085

Eizakshiri, F., Chan, P. W., & Emsley, M. W. (2015). Where is intentionality in studying project delays? *International Journal of Managing Projects in Business, 8*(2), 349-367. doi:10.1108/IJMPB-05-2014-0048

Eker, S., & Zimmerman, N. (2016). Using textual data in system dynamics model conceptualization. *Systems, 4*(3), 28-42. doi: 10.3390/systems4030028

El Asmar, M., Lotfallah, W., Whited, G., & Hanna, A. S. (2010). Quantitative methods for design-build team selection. *Journal of Construction Engineering & Management, 136*(8), 904-912. doi:10.1061/(ASCE)CO.1943-7862.0000194

Elias, A. A. (2016). Stakeholder analysis for Lean Six Sigma project management. *International Journal of Lean Six Sigma, 7*(4), 394-405. doi: 10.1108/IJLSS-11-2015-0046

Ellis, J. L. (2013). A standard for test reliability in group research. *Behavior Research Methods, 45*(1), 16-24. doi:10.3758/s13428-012-0223-z

Elzamly, A., & Hussin, B. (2016). Quantitative and intelligent risk models in risk management for constructing software development projects: A review. *International Journal of Software Engineering and Its Applications, 10*(2), 9-20. doi: 10.14257/ijseia.2016.10.2.02

Enshassi, A., Kochendoerfer, B., & Ghoul, H. A. (2016). Factors affecting sustainable performance of construction projects during project life cycle phases. *International*

Journal of Sustainable Construction Engineering and Technology, 7(1), 50-68. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2015-02-01:2017-03-01&l=en&q=(project%20life%20cycle)

Ergene, Ö., Yazıcı, E. Z., & Delice, A. (2016). Investigation of validity and reliability works in postgraduate mathematics theses that adopt qualitative research in Turkey: Functions of data collection tool. SHS Web of Conferences, 26, 1060. doi:10.1051/shsconf/20162601060

Errihani, S., Elfezazi, S., & Benhida, K. (2015). Adaption and application of project management according to the PMBOK to a set of it projects in a public body. *Journal of Theoretical and Applied Information Technology, 79*(2), 191-202. Retrieved from http://liberty.summon.serialssolutions.com/#!/search?bookMark=ePnHCXMwXV1LC4MwDJbhYY8_EdiuHoqP6rG-pozZMnvZSWy1Z2H7_yydyh63tnwJFEKSL5Bk77jIW8cN8pyY2BJYErpf5-3iJSO783jnTCxnQr6rMcCaHJgQawct8BLEjdulH_CZbg8sy5Ad1c0ZJAdZFSCuKb_YC4O2kFaqlqtgCzXqhbkvF1Ke3w-OLAuZVd6yasCbYhJ4xmAkVeFgklhpv-9HOiCRUAHmQjTu1UCSkRoV-L4mRis7s4tE-PUQ34gO9OgfnOOsdvXn3WIKj45QijlAgoEQUac_VK9sQUM_f2AvsLxWVg

Ertsen, M. W. (2016). A matter of relationships: Actor-networks of colonial rule in the Gezira irrigation system, Sudan. *Water Alternatives, 9*(2), 203-221. Retrieved from

http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2016-01-01:2017-11-01&l=en&q=(actor%20network%20theory)&oaf=t

Esbjerg, L., Burt, S., Pearse, H., & Glanz-Chanos, V. (2016). Retailers and technology-driven innovation in the food sector: Caretakers of consumer interests or barriers to innovation? *British Food Journal, 118*(6), 1370-1383. doi:10.1108/BFJ-10-2015-0367

Eskelinen, T., Rajahonka, M., Villman, K., & Santti, U. (2017). Improving internal communication management in SMEs: Two case studies in service design. *Technology Innovation Management Review, 7*(6), 16-24. Retrieved from http://timreview.ca/article/1081

Eskerod, P., & Huemann, M. (2013). Sustainable development and project stakeholder management: What standards say. *International Journal of Managing Projects in Business, 6*(1), 36-50. doi: 10.1108/17538371311291017

Estler, H. C., Nordiio, M., Furia, C. A., Meyer, B., & Schneider, J. (2013). Agile vs. structured distributed software development: A cases study. *Empirical Software Engineering, 19*(5), 1197-1224. doi: 10.1007/s10664-013-9271-y

Evans, M. S. (2014). A computational approach to qualitative analysis in large textual datasets. *PloS One, 9*(2), e87908. doi: 10.1371/journal.pone.0087908

Fabricius, G., & Büttgen, M. (2015). Project managers' overconfidence: How is risk reflected in anticipated project success? *Business Research, 8*(2), 239-263. doi:10.1007/s40685-015-0022-3

Fageha, M. K., & Aibinu, A. A. (2014). Prioritising project scope definition elements in public building projects. *Australasian Journal of Construction Economics and Building, 14*(3), 18-33. doi:10.5130/ajceb.v14i3.4155

Fageha, M. K., & Aibinu, A. A. (2016). Identifying stakeholders' involvement that enhances project scope definition completeness in Saudi Arabian public building projects. *Built Environment Project and Asset Management, 6*(1), 6-29. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1761040514?accountid=12085

Fang, C., Marle, F., Zio, E., & Bocquet, J. (2012). Network theory-based analysis of risk interactions in large engineering projects. *Reliability Engineering and System Safety, 106*, 1-10. doi: 10.1016/j.ress.2012.04.005

Farquhar, J. D. (2012). Case study research for business (pp. 84-99). London: SAGE Publications Ltd. doi: 10.4135/9781446287910

Farzaneh, N., & Shamizanjani, M. (2014). Storytelling for project knowledge management across the project life cycle. *Knowledge Management & E-Learning, 6*(1), 83–97. Retrieved from http://liberty.summon.serialssolutions.com/#!/search?bookMark=ePnHCXMwPV3LCsMgEMwhh6Zf4Q8EjBp1z6Wlpcf2LusrFPqit_59V5PmKiIsLs7suMxum5bq1tQ2naDs6Q1wtflrHoWdUAZ1zflSfpCr5eRzYsTO2KI7sFVJYo-1_YNhRQxGjGjdd7_lxMI3lEf0ethfd8d-GR7QRyjtVhgHrQOPaRTKJuDJ-CC09Wi1zH6gKoFnBMARQWEQkJBKDfTIczQwlFnJp_nY0qXm3rP1gytmzHXh9ZnccrcuZ0RCeYpURlUHNPkkRk9QCFGiNfIHr1JUUA

Fattahi, F., Nookabadi, A. S., & Kadivar, M. (2013). A model for measuring the performance of the meat supply chain. *British Food Journal, 115*(8), 1090-1111. doi:10.1108/BFJ-09-2011-0217

Fernandes, G., Ward, S., & Araújo, M. (2015). Improving and embedding project management practice in organisations — A qualitative study. *International Journal of Project Management, 33*(5), 1052. doi: 10.1016/j.ijproman.2015.01.012

Fletcher, A. J., MacPhee, M., & Dickson, G. (2015). Doing participatory action research in a multicase study: A methodological example. *International Journal of Qualitative Methods, 14*(5), 1-9. doi:10.1177/1609406915621405

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12*(2), 219-245. doi:10.1177/1077800405284363

Foroughi, A., & Esfahani, M. H. (2012). An empirical study for ranking risk factors using linear assignment: A case study of road construction. *Management Science Letters, 2*(2), 615-622. doi: 0.5267/j.msl.2011.11.007

Frost, N. & Kinmond, K. (2012). Evaluating qualitative research. In Sullivan, C., Gibson, S. & Riley, S. Doing your qualitative psychology project (pp. 154-172). London: SAGE Publications Ltd. doi: 10.4135/9781473914209

Fulcher, B. D., & Jones, N. S. (2014). Highly comparative feature-based time-series classification. *IEEE Transactions on Knowledge and Data Engineering, 26*(12), 3026-3037. doi:10.1109/TKDE.2014.2316504

Fusch, P. I., & Ness, L. R. (2015). Are we there yet? Data saturation in qualitative research. *The Qualitative Report, 20*(9), 1408-1416. Retrieved from

http://ezproxy.liberty.edu/login?url=https://search-proquest-com.ezproxy.liberty.edu/docview/1721368991?accountid=12085

Gamboa, G., Kovacic, Z., Di Masso, M., Mingorría, S., Gomiero, T., Rivera-Ferré, M., & Giampietro, M. (2016). The complexity of food systems: Defining relevant attributes and indicators for the evaluation of food supply chains in Spain. *Sustainability, 8*(6), 515. doi:10.3390/su8060515

Gans, H. (2010). Participant observation in the era of “ethnography”. In P. Atkinson & S. Delamont (Eds.), SAGE qualitative research methods (pp. 541-548). Thousand Oaks, CA: SAGE Publications Ltd. doi: 10.4135/9780857028211

Garg, P., & Garg, A. (2013). An empirical study on critical failure factors for enterprise resource planning implementation in Indian retail sector. *Business Process Management Journal, 19*(3), 496-514. doi:10.1108/14637151311319923

Garrone, P., Melacini, M., Perego, A., & Sert, S. (2016). Reducing food waste in food manufacturing companies. *Journal of Cleaner Production, 137*(11), 1076-1085. doi: 10.1016/j.jclepro.2016.07.145

Gastón, M. T., & Harrison, W. (2012). Meatpacking workers' perceptions of working conditions, psychological contracts, and organizational justice. *The Journal of Latino - Latin American Studies, 4*(1), 57-76. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1025768259?accountid=12085

Gawlik, R. (2016). Methodological aspects of qualitative-quantitative analysis of decision-making processes. *Management and Production Engineering Review, 7*(2), 3-11. doi:10.1515/mper-2016-0011

Gazdziak, S. (2017, May). The 2017 Top 100 Meat & Poultry Processors. *The National Provisioner*. Retrieved from http://www.provisioneronline.com/2017-top-100-meat-and-poultry-processors

Gemünden, H. G. (2015). Foundations of project management research: Stakeholders and agile. *Project Management Journal, 46*(6), 3-5. doi:10.1002/pmj.21557

Geylani, P. C. (2015). Lumpy investments and capital adjustment patterns in the food manufacturing industry. *Journal of Economics and Finance, 39*(3), 501-517. doi: 10.1007/s12197-013-9262-2

Geylani, P. C., & Stefanou, S. E. (2013). Linking investment spikes and productivity growth. *Empirical Economics, 45*(1), 157-178. doi:10.1007/s00181-012-0599-8

Ghazzawi, I., & Palladini, M. (2016). The coin has two faces: Differences that matter! *Journal of the International Academy for Case Studies, 22*(2), 63-75. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1804899550?accountid=12085

Glaser, B. G. (2014). Choosing grounded theory. *Grounded Theory Review: An International Journal, 13*(2), 3-19. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=sih&AN=102559398&site=ehost-live&scope=site

Gläser, J., & Laudel, G. (2013). Life with and without coding: Two methods for early-stage data analysis in qualitative research aiming at causal explanations. *Forum: Qualitative Social Research, 14*(2) Retrieved from http://ezproxy.liberty.edu/login?url=https://search-proquest-com.ezproxy.liberty.edu/docview/1356976111?accountid=12085

Göbel, C., Langen, N., Blumenthal, A., Teitscheid, P., & Ritter, G. (2015). Cutting food waste through cooperation along the food supply chain. *Sustainability, 7*(2), 1429-1445. doi:10.3390/su7021429

Gomes, Rui Manuel da Silva. (2013). Contributions of the PMBoK to the project management of an ERP system implementation. *Revista De Gestao e Projetos, 4*(2), 153. Retrieved from ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?p=AONE&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA366239446&sid=summon&asid=4a868a1b8c2078691e3ee4813e9e92ce

Gong, Z., & Wang, L. (2017). On consistency test method of expert opinion in ecological security assessment. *International Journal of Environmental Research and Public Health, 14*(9), 1012-1033. doi:10.3390/ijerph14091012

Graafland, J. (2017). Religiosity, attitude and the demand for socially responsible products. *Journal of Business Ethics, 144*(1), 121-138. doi:10.1007/s10551-015-2796-9

Graça, J. (2016). Towards an integrated approach to food behaviour: Meat consumption and substitution, from context to consumers. *Psychology, Community & Health, 5*(2), 152-169. doi: 10.5964/pch.v5i2.169

Graham, I., Goodall, P., Peng, Y., Palmer, C., West, A., Conway, P., Mascolo, J. E., & Dettmer, F. U. (2015). Performance measurement and KPIs for remanufacturing. *Journal of Remanufacturing, 5*(1), 1-17. doi: 10.1186/s13243-015-0019-2

Green, B., & Taylor, C. R. (2016). Breakthroughs, deadlines, and self-reported progress: Contracting for multistage projects. *American Economic Review, 106*(12), 3660. doi:10.1257/aer.20151181

Green, H. E. (2014). Use of theoretical and conceptual frameworks in qualitative research. *Nurse Researcher, 21*(6), 34. doi: 10.7748/nr.21.6.34.e1252

Groenewald, A. C., Prinsloo, J. J., & Pelser, T. G. (2014). Strategic marketing insights for small business meat retailers. *The International Business & Economics Research Journal (Online), 13*(3), 525-538. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1525361624?accountid=12085

Guest, G., MacQueen, K. M. & Namey, E. E. Applied thematic analysis. Thousand Oaks, CA: SAGE Publications Ltd. doi: 10.4135/9781483384436

Hadad, Y., Keren, B., & Laslo, Z. (2016). Multi-criteria methods for ranking project activities. *Yugoslav Journal of Operations Research*, *26*(2), 199-217. doi:10.2298/YJOR140618012H

Hällgren, M., & Lindahl, M. (2017). Coping with lack of authority: Extending research on project governance with a practice approach. *International Journal of Managing Projects in Business*, *10*(2), 244-262. doi: 10.1108/IJMPB-04-2016-0036

Hallström, E., & Börjesson, P. (2013). Meat-consumption statistics: Reliability and discrepancy. *Sustainability: Science, Practice, & Policy, 9*(2), 37-47. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1460161745?accountid=12085

Hammond, D., & Luiz, J. (2016). The co-operative model as a means of stakeholder management: An exploratory qualitative analysis. *South African Journal of Economic and Management Sciences, N.S, 19*(4), 630-646. doi:10.4102/sajems

Handzic, M., Durmic, N., Kraljic, A., & Kraljic, T. (2016). An empirical investigation of the relationship between intellectual capital and project success. *Journal of Intellectual Capital, 17*(3), 471-483. doi: 10.1108/JIC-01-2016-0004

Hanseth, O., Aanestad, M., & Berg, M. (Eds.). (2004). *Actor-network theory and information systems*. Retrieved from https://ebookcentral-proquest-com.ezproxy.liberty.edu

Hathout, M., Vuillet, M., Peyras, L., Carvajal, C., & Diab, Y. (2016). Uncertainty and expert assessment for supporting evaluation of levees safety. E3S Web of Conferences, 7, 3019. doi:10.1051/e3sconf/20160703019

Hazel, S. (2016). The paradox from within: Research participants doing-being-observed. *Qualitative Research, 16*(4), 446-467. doi:10.1177/1468794115596216

Heaton, K. M., Skok, W., & Kovela, S. (2016). Learning lessons from software implementation projects: An exploratory study. *Knowledge and Process Management, 23*(4), 293-306. doi:10.1002/kpm.1525

Hemmati, M., & Hosseini, H. (2016). Effect of IT application on project performance focusing on the mediating role of organizational innovation, knowledge management and

organizational capabilities. *Engineering, Technology & Applied Science Research, 6*(6), 1221-1226. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Dissertation,f%7CContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-01-01:2017-06-18&l=en&q=(knowledge%20management%20and%20project%20management)&oaf=t

Hermanowicz, J. C. (2013). The longitudinal qualitative interview. *Qualitative Sociology, 36*(2), 189-208. doi:10.1007/s11133-013-9247-7

Hidding, G. J., & Nicholas, J. M. (2014). Reducing I.T. project management failures: Early empirical results. Paper presented at the 4305-4314. doi:10.1109/HICSS.2014.532

Hira, S., & Deshpande, P. S. (2016). Mining precise cause and effect rules in large time series data of socio-economic indicators. *Springerplus, 5*(1), 1-31. doi:10.1186/s40064-016-3292-0

Hoda, R., Noble, J., & Marshall, S. (2012). Developing a grounded theory to explain the practices of self-organizing agile teams. *Empirical Software Engineering, 17*(6), 609-639. doi: 10.1007/s10664-011-9161-0

Holme, P. (2015). Modern temporal network theory: A colloquium. *The European Physical Journal B, 88*(9), 1-30. doi:10.1140/epjb/e2015-60657-4

Holst, I. M. (2017). Social media marketing integration: Agile project management DigitalCommons@Liberty University.

Hors, C., Goldberg, A. C., Almeida, Ederson Haroldo Pereira de, Babio Júnior, F. G., & Rizzo, L. V. (2012). Application of the enterprise management tools Lean Six Sigma and PMBOK in developing a program of research management. *Einstein (São Paulo), 10*(4), 480-490. doi:10.1590/S1679-45082012000400015

Hossain, D. M. (2012). Mixed method research: An overview. *Postmodern Openings, 3*(4), 137-151. Retrieved from http://postmodernopenings.com/wp-content/uploads/2013/01/10-Mixed-Method.pdf

Hovhannisyan, S. V., & Grigoryan, K. A. (2016). The main problems and features of the global and local meat production. *Annals of Agrarian Science, 14*(4), 315-318. doi: 10.1016/j.aasci.2016.09.008

Hu, Q., & Szmerekovsky, J. (2017). Project portfolio selection: A newsvendor approach. *Decision Sciences, 48*(1), 176-199. doi:10.1111/deci.12214

Huang, H., Wu, S., Lu, J., Shyu, Y., & Wang, C. (2017). Current status and future trends of high-pressure processing in food industry. *Food Control, 72*, 1-8. doi: 10.1016/j.foodcont.2016.07.019

Hughes, D. L., Rana, N. P., & Simintiras, A. C. (2017). The changing landscape of IS project failure: An examination of the key factors. *Journal of Enterprise Information Management, 30*(1), 142-165. doi:10.1108/JEIM-01-2016-0029

Hurst, S., Arulogun, O. S., Owolabi, M. O., Akinyemi, R., Uvere, E., Warth, S., & Ovbiagele, B. (2015). Pretesting qualitative data collection procedures to facilitate methodological adherence and team building in Nigeria. *International Journal of Qualitative Methods, 14*(1), 53-64. doi:10.1177/160940691501400106

Hussein, A. (2015). The use of triangulation in social sciences research: Can qualitative and quantitative methods be combined? *Journal of Comparative Social Work, 4*(1), 1-12. Retrieved from http://journal.uia.no/index.php/JCSW/article/view/212/147

Ikediashi, D. I., Ogunlana, S. O., & Alotaibi, A. (2014). Analysis of project failure factors for infrastructure projects in Saudi Arabia: A multivariate approach. *Journal of Construction in Developing Countries, 19*(1), 35-52. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1563712723?accountid=12085

Iyamu, T. (2017). Improvising information technology projects through the duality of structure. *South African Journal of Information Management, 19*(1), 1-9. doi:10.4102/sajim.v19i1.797

Jackson, S. (2015). Toward an analytical and methodological understanding of actor-network theory. *Journal of Arts and Humanities, 4*(2), 29-44. doi: 10.18533/journal.v4i2.210

Jacobsen, L. F., Grunert, K. G., Søndergaard, H. A., Steenbekkers, B., Dekker, M., & Lähteenmäki, L. (2014). Improving internal communication between marketing and technology functions for successful new food product development. *Trends in Food Science and Technology, 37*(2), 106-114. doi: 10.1016/j.tifs.2014.03.005

Jamshidi, N., Molazem, Z., Sharif, F., Torabizadeh, C., & Majid, N. K. (2016). The challenges of nursing students in the clinical learning environment: A qualitative study. *The Scientific World Journal, 2016*, 1-7. doi: 10.1155/2016/1846178

Jansen, T. (2016). Beyond ANT: Towards an 'infra-language' of reflexivity. European Journal of Social Theory, 20(2), 199-215. doi: 10.1177/1368431016646506

Jayaraman, R. (2016). Project cost control: A new method to plan and control costs in large projects. *Business Process Management Journal, 22*(6), 1247-1268. doi:10.1108/BPMJ-10-2014-0102

Jensen Oellgaard, M. (2013). The performance of a project life cycle methodology in practice. *Project Management Journal, 44*(4), 65-83. doi: 10.1002/pmj.21357

Jeong, W., Chang, S., Son, J., & Yi, J. (2016). BIM-integrated construction operation simulation for just-in-time production management. *Sustainability, 8*(12), 1106. doi:10.3390/su8111106

Jerbrant, A. (2014). A maturation model for project-based organisations - with uncertainty management as an always remaining multi-project management focus. *South African Journal of Economic and Management Sciences, 17*(1), 33-51. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1519633779?accountid=12085

Jiang, H., Kwong, C., Liu, Y., & Ip, W. (2015). A methodology of integrating affective design with defining engineering specifications for product design. *International Journal of Production Research, 53*(8), 2472-2488. doi: 10.1080/00207543.2014.975372

Johnson, M., O'Hara, R., Hirst, E., Weyman, A., Turner, J., Mason, S., Quinn, T., Shewan J., & Siriwardena, A. N. (2017). Multiple triangulation and collaborative research using qualitative methods to explore decision making in pre-hospital emergency care. *BMC Medical Research Methodology, 17*(11), 1-12. doi: 10.1186/s12874-017-0290-z

Johnson, N., Creasy, T., & Fan, Y. (2016). Recent trends in theory use and application within the project management discipline. *Journal of Engineering, 6*(1), 25-52. Retrieved from

http://www.ppml.url.tw/EPPM_Journal/volumns/06_01_January_2016/ID_128_06_01_25_52.pdf

Jørgensen, M., & Yamashita, A. (2016). Cultural characteristics and their connection to increased risk of software project failure. *Journal of Software, 11*(6), 606-614. doi:10.17706/jsw.11.6.606-614

Jose Ibarrola-Rivas, M., & Nonhebel, S. (2016). Variations in the use of resources for food: Land, nitrogen fertilizer and food nexus. *Sustainability, 8*(12), 1322. doi:10.3390/su8121322

Jugdev, K., & Mathur, G. (2013). Bridging situated learning theory to the resource-based view of project management. *International Journal of Managing Projects in Business, 6*(4), 633-653. doi:10.1108/IJMPB-04-2012-0012

Kaipia, R., Dukovska-Popovska, I., & Loikkanen, L. (2013). Creating sustainable fresh food supply chains through waste reduction. *International Journal of Physical Distribution & Logistics Management, 43*(3), 262-276. Retrieved from http://ezproxy.liberty.edu/login?url=https://search-proquest-com.ezproxy.liberty.edu/docview/1355291001?accountid=12085

Kai-Ying, A. (2014). Multiple project team membership and performance: Empirical evidence from engineering project teams. *South African Journal of Economic and Management Sciences, 17*(1), 76-90. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1519633907?accountid=12085

Karlsen, J. E. (2014). Design and application for a replicable foresight methodology bridging quantitative and qualitative expert data. *European Journal of Futures Research, 2*(1), 1-12. doi: 10.1007/s40309-014-0040-y

Ke, H., & Ma, J. (2014). Modeling project time–cost trade-off in fuzzy random environment. *Applied Soft Computing, 19*, 80-85. doi: 10.1016/j.asoc.2014.01.040

Kerwin-Boudreau, S., & Butler-Kisber, L. (2016). Deepening understanding in qualitative inquiry. *The Qualitative Report, 21*(5), 956-971. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1806967361?accountid=12085

Khalema, L. S., C C van Waveren, & Chan, K. (2015). The relationship between project management office maturity and organisational project management maturity: An empirical study of the South African government infrastructure departments. *South African Journal of Industrial Engineering*, *26*(3), 12-26. doi:10.7166/26-3-1021

Khan, S. N. (2014). Qualitative research method - phenomenology. *Asian Social Science*, *10*(21) doi:10.5539/ass.v10n21p298

Khan, S. U. R., Long, C. S., & Iqbal, S. M. J. (2014). Authentic leadership: An emerging issue in project management. *Research Journal of Applied Sciences, Engineering and Technology, 8*(11), 1377-1383. Retrieved from https://pure.utm.my/en/publications/authentic-leadership-an-emerging-issue-in-project-management

Khurum, M., Petersen, K., & Gorschek, T. (2014). Extending value stream mapping through waste definition beyond customer perspective. *Journal of Software: Evolution & Process, 26*(12), 1074-1105. doi:10.1002/smr.1647

Kim, K., Markman, A. B., & Kim, T. H. (2016). The influence of the number of relevant causes on the processing of covariation information in causal reasoning. *Cognitive Processing, 17*(4), 399-413. doi:10.1007/s10339-016-0770-9

Kipli, K., Abdullah, F., & Mustafa, F. D. (2016). The missing point of knowledge management in PFI projects. *MATEC Web of Conferences, 66*, 25. doi:10.1051/matecconf/20166600025

Kiran, R., Agarwal, P. D., & Verma, A. K. (2013). Role of thought leaders and junior academia in enhancing research and curriculum in institutions of higher technical education. *Knowledge management, 3*(2), 1-13. doi:10.1177/2158244013484915

Klakegg, O. (2016). Project risk management: Challenge established practice. *Administrative Sciences, 6*(4), 21. doi:10.3390/admsci6040021

Klas, M., Nakao, H., Elberzhager, F., & Munch, J. (2008). Predicting defect content and quality assurance effectiveness by combining expert judgment and defect data - A case study. Paper presented at the 17-26. doi:10.1109/ISSRE.2008.43

Kloppenborg, T. J., & Tesch, D. (2015). How executive sponsors influence project success. *MIT Sloan Management Review, 56*(3), 27-30. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1670982322?accountid=12085

Kloppenborg, T. J., Tesch, D., & Manolis, C. (2014). Project success and executive sponsor behaviors: Empirical life cycle stage investigations. *Project Management Journal*, *45*(1), 9-20. doi: 10.1002/pmj.21396

Klüver, C. (2012). Solving problems of project management with a self-enforcing network (SEN). *Computational and Mathematical Organization Theory, 18*(2), 175-192. doi: 10.1007/s10588-012-9118-x

Koelsch, L. E. (2013). Reconceptualizing the member check interview. *International Journal of Qualitative Methods, 12*(1), 168-179. doi:10.1177/160940691301200105

Könnölä, K., Suomi, S., Mäkilä, T., Jokela, T., Rantala, V., & Lehtonen, T. (2016). Agile methods in embedded system development: Multiple case study of three industrial cases. *Journal of Systems and Software, 118*(8), 134-150. doi: 10.1016/j.jss.2016.05.001

Konstantinou, E. (2015). Professionalism in project management: Redefining the role of the project practitioner. *Project Management Journal, 46*(2), 21-35. doi:10.1002/pmj.21481

Kral, M., & Mildeova, S. (2012). Project management: A case of fixed price IS/IT projects. analysis of projects by project scopes. *Journal of Systems Integration, 3*(4), 29-39. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Journal%20Article,f%7CDiscipline,business,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-07-01:2017-07-11&l=en&q=(journal%20notes%20project%20management)&oaf=t

Kriksciuniene, D., Sakalauskas, V., Strigunaite, S., & Masteika, S. (2015). Project performance evaluation by modified analytic hierarchy process model. *Transformations in Business and Economics, 14*(1), 192-211. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-07-11:2017-07-11&l=en&q=(analytical%20hierarchical%20process%20project%20management)

Krog, C. L., & Govender, K. (2015). The relationship between servant leadership and employee empowerment, commitment, trust and innovative behaviour: A project management perspective. *SA Journal of Human Resource Management, 13*(1), 1-12. doi: 10.4102/sajhrm.v13i1.712

Kruger, W., & Rudman, R. (2013). Strategic alignment of application software packages and business processes using PRINCE2. *The International Business & Economics Research Journal (Online), 12*(10), 1239.

Kylili, A., Fokaides, P. A., & Lopez Jimenez, P. A. (2016). Key performance indicators (KPIs) approach in buildings renovation for the sustainability of the built environment: A review. *Renewable and Sustainable Energy Reviews, 56*, 906-915. doi: 10.1016/j.rser.2015.11.096

Lacy, S. (2013, Winter). Hard to watch: How ag-gag laws demonstrate the need for federal meat and poultry industry whistleblower protections. *Administrative Law Review, 65*(1), 127+. Retrieved from

http://ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?p=ITOF&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA326852119&sid=summon&asid=d8bc1b64e1c405c135c9a096f8e445fd

Lakemond, N., Bengtsson, L., Laursen, K., & Tell, F. (2016). Match and manage: The use of knowledge matching and project management to integrate knowledge in collaborative inbound open innovation. *Industrial and Corporate Change, 25*(2), 333-352. doi:10.1093/icc/dtw004

Langston, C. (2013). Development of generic key performance indicators for PMBOK using a 3D project integration model. *The Australasian Journal of Construction Economics and Building, 13*(4), 78-91. doi:10.5130/AJCEB.v13i4.3658

Lapunka, I., & Pisz, I. (2014). Knowledge management in the project life cycle - initial research on Polish SMES. *Foundations of Management, 6*(2), 67-82. doi: 10.1515/fman-2015-0012

LaRossa, R. (2005). Grounded theory methods and qualitative family research. *Journal of Marriage and Family, 67*(4), 837-857. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/219758803?accountid=12085

Larson, E. W., & Gray, C. F. (2014). *Project management: The managerial process* (6th ed.). New York, NY: McGraw-Hill, ISBN: 9781259186400.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford; New York: Oxford University Press.

Lawrence, J., & Tar, U. (2013). The use of grounded theory technique as a practical tool for qualitative data collection and analysis. *Electronic Journal of Business Research Methods, 11*(1), 29-40. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1460386269?accountid=12085

Lech, P. (2016). Causes and remedies for the dominant risk factors in enterprise system implementation projects: The consultants' perspective. *Springerplus, 5*(1), 1-12. doi:10.1186/s40064-016-1862-9

Lee, S., & Liang, S. (2014). Key core project management of construction industry to study. *Open Journal of Social Sciences, 2*(3), 48-54. doi:10.4236/jss.2014.23010

Lehnert, M., Linhart, A., & Röglinger, M. (2016). Value-based process project portfolio management: Integrated planning of BPM capability development and process improvement. *Business Research, 9*(2), 377. doi:10.1007/s40685-016-0036-5

Lehtinen, T. O., Mäntylä, M. V., Vanhanen, J., Itkonen, J., & Lassenius, C. (2014). Perceived causes of software project failures - an analysis of their relationships. *Information and Software Technology, 56*(6), 623. doi: 10.1016/j.infsof.2014.01.015

Leroy, F., & Degreef, F. (2015). Convenient meat and meat products. Societal and technological issues. *Appetite, 94*(11), 40-46. doi: 10.1016/j.appet.2015.01.022

Leybourne, S. A., Warburton, R., & Kanabar, V. (2014). Is project management the new management 2.0? *Organisational Project Management, 1*(1), 16-36. doi:10.5130/opm.v1i1.3959

Li, J., & Zou, P. (2012). Risk identification and assessment in PPP infrastructure projects using fuzzy analytical hierarchy process and life-cycle methodology. *Australasian Journal of Construction Economics and Building*, *8*(1), 34-48. doi:10.5130/ajceb.v8i1.2996

Liang, X., Shen, G. Q., & Guo, L. (2015). Improving management of green retrofits from a stakeholder perspective: A case study in china. *International Journal of Environmental Research and Public Health, 12*(11), 13823-13842. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1733146679?accountid=12085

Lichtenberg, S. (2016). Successful control of major project budgets. *Administrative Sciences, 6*(3), 1-14. doi: 10.3390/admsci6030008

Liebowitz, J. (2015). IT project failures: What management can learn. *IT Professional, 17*(6), 8-9. doi:10.1109/MITP.2015.110

Lim, K. H., Hu, W., Maynard, L. J., & Goddard, E. (2013). U.S. consumers' preference and willingness to pay for country-of-origin-labeled beef steak and food safety enhancements. *Canadian Journal of Agricultural Economics, 61*(1), 93-118. doi:10.1111/j.1744-7976.2012.01260.x

Lin, C., Wu, W., & Cheng, L. (2015). Towards understanding integration of heavyweight-product managers and collaboration software in collaborative product development: An empirical study in Taiwan. *Technological Forecasting & Social Change, 99*, 156-167. doi: 10.1016/j.techfore.2015.06.030

Linden, A. (2017). Persistent threats to validity in single-group interrupted time series analysis with a cross over design. *Journal of Evaluation in Clinical Practice, 23*(2), 419-425. doi:10.1111/jep.12668

Lippe, S., & vom Brocke, J. (2016). Situational project management for collaborative research projects. *Project Management Journal, 47*(1), 76–96. doi:10.1002/pmj.21561

Lmoussaoui, H., & Jamouli, H. (2016). Network theory-based analysis of construction project risks. *Engineering Management Research, 5*(2), 24. doi:10.5539/emr.v5n2p24

Lub, V. (2015). Validity in qualitative evaluation: Linking purposes, paradigms, and perspectives. *International Journal of Qualitative Methods, 14*(5), 160940691562140. doi:10.1177/1609406915621406

Łuczka, W. (2014). Network interconnections as a driver of innovativeness in meat industry companies. *Acta Scientiarum Polonorum. Oeconomia, 13*(4), 115-124.

Luo, F. Z., & Han, Y. H. (2013). Integrated risk management based on life cycle of engineering project. *Applied Mechanics and Materials, 357-360*, 2680-2683. doi: 10.4028/www.scientific.net/AMM.357-360.2680

Luppino, R., Hosseini, M. R., & Rameezdeen, R. (2014). Risk management in research and development (r&d) projects: The case of South Australia. *Asian Academy of Management Journal, 19*(2), 67-85. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1681479949?accountid=12085

MacNeela, P., Doyle, C., O'Gorman, D., Ruane, N., & McGuire, B. E. (2015). Experiences of chronic low back pain: A meta-ethnography of qualitative research. *Health Psychology Review, 9*(1), 63-82. doi:10.1080/17437199.2013.840951

Maharaj, N. (2016). Using field notes to facilitate critical reflection. *Reflective Practice, 17*(2), 114-124. doi:10.1080/14623943.2015.1134472

Manser, K., Hillebrand, B., Klein Woolthuis, R., Ziggers, G. W., Driessen, P. H., & Bloemer, J. (2016). An activities-based approach to network management: An explorative study. *Industrial Marketing Management, 55*, 187-199. doi: 10.1016/j.indmarman.2015.10.004

Marinho, M., Sampaio, S., Lima, T., & Moura, H. d. (2014). A systematic review of uncertainties in software project management. *International Journal of Software Engineering & Applications, 5*(6), 1-21. doi:10.5121/ijsea.2014.5601

Marion, J. W., Richardson, T. M., & Earnhardt, M. P. (2014). Project manager insights: An analysis of career progression. *Organisational Project Management, 1*(1), 53-73. doi:10.5130/opm.v1i1.3949

Martinic, A., Fertalj, K., & Kalpic, D. (2012). Methodological framework for virtual team project management. *International Journal of Innovation, Management and Technology, 3*(6), 702. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1468476643?accountid=12085

Mas, A., Mesquida, A., Jovanović, M., & Barceló, J. (2016). Lessons learned from 4-year empowering project management with TALAIA Open PPM. *Journal of Software: Evolution and Process, 28*(11), 981-989. doi:10.1002/smr.1827

Masaryk, R. (2014). Researching social influences on decision making: The case for qualitative methods. *Human Affairs, 24*(3), 336-348. doi: 10.2478/s13374-014-0231-z

Matthias, S., van Soest, A., Kaptey, A., & Couper, M. (2009). Selection bias in web surveys and the use of propensity scores. *Sociological Methods & Research, 37*(3), 291-318. doi: 10.1177/0049124108327128

Marion, J. W., Richardson, T. M., & Earnhardt, M. P. (2014). Project manager insights: An analysis of career progression. *Organisational Project Management, 1*(1), 53-73. doi:10.5130/opm.v1i1.3949

Maxwell, J. A. (2013). Qualitative research design: an interactive approach. Los Angeles, CA: SAGE Publications.

McKeown, B. & Thomas,B. *Quantitative Applications in the Social Sciences: Q methodology*. Thousand Oaks, CA: SAGE Publications Ltd doi: 10.4135/9781483384412

Medvedska, O., & Berzisa, S. (2015). Selection of software development project lifecycle model in government institution. *Information Technology and Management Science, 18*(1), 5-11. doi:10.1515/itms-2015-0001

Meng, X., (2014). Is early warning effective for the improvement of problem solving and project performance? *Journal of Management in Engineering*, *30*(2), 146-152. doi:10.1061/(ASCE)ME.1943-5479.0000205

Mesquida, A., & Mas, A. (2014). A project management improvement program according to ISO/IEC 29110 and PMBOK®. *Journal of Software: Evolution & Process*, *26*(9), 846-854. doi:10.1002/smr.1665

Michalski, J. H. (2016). Overcoming sociological naïveté in the animal rights movement. *Theory in Action, 9*(1), 52-82. doi: 10.3798/tia.1937-0237.16003

Miklosik, A. (2014). Selected aspects of systemic approach to project management. *Actual Problems in Economics,* (155), 195-202. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1655641029?accountid=12085

Miklosik, A., & Janovska, K. (2015). Measuring maturity of project management implementation processes. *Actual Problems in Economics,* (163), 36-42. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1657373672?accountid=12085

Mirabella, N., Castellani, V., & Sala, S. (2014). Current options for the valorization of food manufacturing waste: A review. *Journal of Cleaner Production, 65*, 28-41. doi: 10.1016/j.jclepro.2013.10.051

Mohammadipour, F., & Sadjadi, S. J. (2016). Project cost–quality–risk tradeoff analysis in a time-constrained problem. *Computers & Industrial Engineering, 95*(5), 111-121. doi: 10.1016/j.cie.2016.02.025

Mohebi, E., & Marquez, L. (2015). Intelligent packaging in meat industry: An overview of existing solutions. *Journal of Food Science and Technology, 52*(7), 3947-3964. doi: 10.1007/s13197-014-1588-z

Mok, K. Y., Shen, G. Q., Yang, R. J., & Li, C. Z. (2017). Investigating key challenges in major public engineering projects by a network-theory based analysis of stakeholder concerns:

A case study. *International Journal of Project Management, 35*(1), 78-94. doi: 10.1016/j.ijproman.2016.10.017

Momcilovic, O., Petromanjanc, L. D., & Doljanica, S. (2014). Organizational context of project portfolio management. *ANNALS OF THE ORADEA UNIVERSITY. Fascicle of Management and Technological Engineering, XXIII* (XIII), 2014/3(3) doi:10.15660/AUOFMTE.2014-3.3064

Monteiro, C. A., Moubarac, J. - C., Cannon, G., Ng, S. W., & Popkin, B. (2013). Ultra-processed products are becoming dominant in the global food system. *Obesity Reviews, 14*(S2), 21-28. doi:10.1111/obr.12107

Montes-Guerra, M., Gimena, F. N., Pérez-Ezcurdia, M. A., & Díez-Silva, H. M. (2014). The influence of monitoring and control on project management success. *International Journal of Construction Project Management, 6*(2), 163-184. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1625563034?accountid=12085

Moodley, D., Sutherland, M., & Pretorius, P. (2016). Comparing the power and influence of functional managers with that of project managers in matrix organisations: The challenge in duality of command. *South African Journal of Economic and Management Sciences, 19*(1), 103-117. doi:10.4102/sajems.v19i1.1308

Morse, J. M. (1997). Perfectly healthy, but dead: The myth of inter-rater reliability. *Qualitative Health Research, 7*(4), 445-447. doi: 10.1177/104973238700700401

Mourtzis, D. (2016). Challenges and future perspectives for the life cycle of manufacturing networks in the mass customization era. *Logistics Research, 9*(2), 1-20. doi: 10.1007/s12159-015-0129-0

Mulisani, R. V., & Garcez, M. P. (2014). The influence of principal risk factors in different stages of life cycle of capital projects in a large-sized mining company. *Revista De Gestao e Projetos, 5*(1), 28. doi:10.5585/gep.v5i1.184

Muriana, C., & Vizzini, G. (2017). Project risk management: A deterministic quantitative technique for assessment and mitigation. *International Journal of Project Management, 35*(3), 320-340. doi: 10.1016/j.ijproman.2017.01.010

Nageldinger, G. (2015). A framework for cut-over management. *PeerJ Computer Science, 1*, e29. doi:10.7717/peerj-cs.29

Náglová, Z., & Horáková, T. (2016). Influence of qualitative factors on quantitative determinants in the Czech meat industry economy. *AGRIS on-Line Papers in Economics and Informatics, 8*(4), 111-123. doi:10.7160/aol.2016.080410

Nangoli, S., Namagembe, S., Ntayi, J. M., & Ngoma, M. (2012). Towards building project-stakeholder commitment: Case study – citizenship projects in Uganda. *World Journal of Entrepreneurship, Management and Sustainable Development, 8*(4), 233-245. doi: 10.1108/20425961211276615

National Chicken Council (NCC). (2017). Retrieved from https://www.nationalchickencouncil.org/

Naumes, W., & Naumes, M. J. (2012). *The art & craft of case writing*, (3rd ed.). Armonk, N.Y: M.E. Sharpe.

Nenonen, S., Kivistö-Rahnasto, J., & Vasara, J. (2015). Safety considerations during different stages of a project life cycle in the manufacturing industry. *Human Factors and Ergonomics in Manufacturing & Service Industries, 25*(1), 12-27. doi:10.1002/hfm.20531

Nguyen, L. H., & Watanabe, T. (2017). The impact of project organizational culture on the performance of construction projects. *Sustainability, 9*(5), 781-802. doi: 10.3390/su9050781

Nishinaka, M., Umemoto, K., & Kohda, Y. (2015). Emergence of common tacit knowledge in an international IT project. *International Journal of Managing Projects in Business, 8*(3), 533-551. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1683715308?accountid=12085

Nordgaard, J., Sass, L. A., & Parnas, J. (2013). The psychiatric interview: Validity, structure, and subjectivity. *European Archives of Psychiatry and Clinical Neuroscience, 263*(4), 353-364. doi:10.1007/s00406-012-0366-z

North American Meat Institute (NAMI). (2017). Retrieved from https://www.meatinstitute.org/

Nowlin, M., Spiegel, E., & McHenry, G. (2015, Spring). (M)eat local(r): market and distribution challenges in the local meat system. *Duke Environmental Law & Policy Forum, 25*(2), 339+. Retrieved from http://ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?p=ITOF&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA439953363&sid=summon&asid=ee23b9c11f4c59ade315bd4862d2fcf0

Nunez, M. A., Kuo, L., & Chiang, I. R. (2016). Managing risk-adjusted resource allocation for project time-cost tradeoffs. *Annals of Operations Research*, 1-19. doi:10.1007/s10479-016-2122-7

O'Reilly, S., Kumar, A, & Adam, F. (2015). The role of hierarchical production planning in food manufacturing SMEs. *International Journal of Operations & Production Management, 35*(10), 1362-1385. doi: 10.1108/IJOPM-04-2014-0157

Oerlemans, L. A., Kessel, F. V., & Stroe, S. V. (2014). No creative person is an island: Organisational culture, academic project-based creativity, and the mediating role of intra-organisational social ties. *South African Journal of Economic and Management Sciences, 17*(1), 52-75. doi:10.4102/sajems.v17i1.706

Oliveira, W. A. d., & De Muylder, C. F. (2012). Value creation from organizational project management: A case study in a government agency. *JISTEM - Journal of Information Systems and Technology Management, 9*(3), 497-514. doi:10.4301/378

Olszewska, M., Jeidenber, J., Weijola, M., Mikkonen, K., & Porres, I. (2016). Quantitatively measuring a large-scale agile transformation. *Journal of Systems and Software*, 117, 258-273. doi: 10.1016/j.jss.2016.03.029

Omoijiade, P. O. (2016). The management of political actors in institutions. *International Journal of Research in Business and Social Science, 5*(4), 17-30. doi:10.20525/ijrbs.v5i4.620

Oszust, M., & Kostka, M. (2015). Evaluation of subspace clustering using internal validity measures. *Advances in Electrical and Computer Engineering, 15*(3), 141-146. doi:10.4316/AECE.2015.03020

Oueslati, A. (2016). The added value of the project selection process. *Journal of Defense Resources Management, 7*(1), 75-84. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2015-02-01:2017-03-01&l=en&q=(project%20life%20cycle)

Ozkan, N., & Kucuk, C. (2016). A systematic approach to project related concepts of scrum. *Revista De Management Comparat International, 17*(4), 320-334. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1873604343?accountid=12085

Padmaja, B., Prasad, V. V. R., & Sunitha, K. V. N. (2016). TreeNet analysis of human stress behavior using socio-mobile data. *Journal of Big Data, 3*(1), 1-15. doi: 10.1186/s40537-016-0054-3

Papargyropoulou, E., Lozano, R., K. Steinberger, J., Wright, N., & Ujang, Z. B. (2014). The food waste hierarchy as a framework for the management of food surplus and food waste. *Journal of Cleaner Production, 76*, 106-115. doi: 10.1016/j.jclepro.2014.04.020

Papke-Shields, K. E., & Boyer-Wright, K. M. (2017). Strategic planning characteristics applied to project management. *International Journal of Project Management, 35*(2), 169-179. doi: 10.1016/j.ijproman.2016.10.015

Park, N. K., Chun, M. Y., & Lee, J. (2016). Revisiting individual creativity assessment: Triangulation in subjective and objective assessment methods. *Creativity Research Journal, 28*(1), 1-10. doi:10.1080/10400419.2016.1125259

Parker, D., Charlton, J., Ribeiro, A., & Pathak, R. D. (2013). Integration of project-based management and change management: Intervention methodology. *International Journal of Productivity and Performance Management, 62*(5), 534-544. doi: 10:1108/IJPPM-10-2012-0108

Pathak, V., Jena, B., & Kalra, S. (2013). Qualitative research. *Perspectives in Clinical Research, 4*(3), 192-192. doi:10.4103/2229-3485.115389

Peredaryenko, M. S., & Krauss, S. E. (2013). Calibrating the human instrument: Understanding the interviewing experience of novice qualitative researchers. *The Qualitative Report, 18*(43), 1-17. Retrieved from http://ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?p=AONE&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA353211917&sid=summon&asid=4658882a1f45241fba4111a1291adbbf

Pimchangthong, D., & Boonjing, V. (2017). Effects of risk management practices on IT project success. *Management and Production Engineering Review, 8*(1), 30-37. doi:10.1515/mper-2017-0004

Pinto, J. K., & Winch, G. (2016). The unsettling of "settled science:" the past and future of the management of projects. *International Journal of Project Management, 34*(2), 237-245. doi: 10.1016/j.ijproman.2015.07.011

Platt, J. (2012). The history of the interview. In Gubrium, J. F., Holstein, J. A., Marvasti, A. B. & McKinney, K. D. The SAGE handbook of interview research: The complexity of the craft (pp. 9-26). Thousand Oaks, CA: SAGE Publications Ltd. doi: 10.4135/9781452218403

Ponelis, S. R. (2015). Using interpretive qualitative case studies for exploratory research in doctoral studies: A case of information systems research in small and medium enterprises. *International Journal of Doctoral Studies, 10,* 535-550. Retrieved from http://ijds.org/Volume10/IJDSv10p535-550Ponelis0624.pdf

Popescu, D. (2015). Kaizen-driven approach while managing industrial projects. A Scandinavian company succeeds in Eastern Europe. *Management and Production Engineering Review, 6*(1), 26-35. doi:10.1515/mper-2015-0005

Porananond, D., & Thawesaengskulthai, N. (2014). Risk management for new product development projects in food industry. *Journal of Engineering, 4*(2), 99-113. Retrieved from http://www.ppml.url.tw/EPPM_Journal/volumns/04_02_July_2014/ID_087_4_2_99_113.pdf

Prater, J., Kirytopoulos, K., & Ma, T. (2017). Optimism bias within the project management context: A systematic quantitative literature review. *International Journal of Managing Projects in Business, 10*(2), 370-385. doi:10.1108/IJMPB-07-2016-0063

Pretorius, T., & Oerlemans, L. (2014). Project-based production and project management: Findings and trends in research on temporary systems in multiple contexts. *South African Journal of Economic and Management Sciences, 17*(1), 105-108. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1519633789?accountid=12085

Project Management Institute. (2013). *A guide to the project management body of knowledge (PMBOK guide)*. Newtown Square, Pa: Project Management Institute.

Rahmani, M., Roels, G., & Karmarkar, U. S. (2017). Collaborative work dynamics in projects with co-production. *Production and Operations Management, 26*(4), 686-703. doi:10.1111/poms.12670

Ramachandraiah, K., Han, S. G., & Chin, K. B. (2015). Nanotechnology in meat processing and packaging: Potential applications - a review. *Asian-Australasian Journal of Animal Sciences, 28*(2), 290-302. doi:10.5713/ajas.14.0607

Ramos, P., Mota, C., & Corrêa, L. (2016). Exploring the management style of Brazilians project managers. *International Journal of Project Management, 34*(6), 902-913. doi: 10.1016/j.ijproman.2016.03.002

Rapaka, D. M. P. (2017). Six sigma methods and formulas for successful quality management. *International Journal of Engineering Research and Applications, 7*(1), 49-52. doi:10.9790/9622-0701054952

Rapaka, M.P. (2017). Six sigma methods and its application in project management. *American Journal of Engineering Research*, *6*(2), 17-19. Retrieve from http://liberty.summon.serialssolutions.com/#!/search?bookMark=ePnHCXMw42JgAfZbU5lAd7oZgY8NBXaJEGwOxPgHqOY15mSwDs6sUAjOTM9NVPAFX5pcrADsQyt4lhQrOCLmcBUy8xQCIGMTCoiFIdwMnm6uIc4euqClZPEFkPMZ4kEnJoMF8ovS46EREG9qnpKUlmKRZJFommqSamFikWyYmJZkbGSYaGpqYWYAujiXemYBAMxZUGM

Rasnacis, A., & Berzisa, S. (2015). Adaptation of agile project management methodology for project team. *Information Technology and Management Science, 18*(1), 122-128. doi:10.1515/itms-2015-0019

Rathi, R., Khanduja, D., & Sharma, S. K. (2015). Six sigma project selection using fuzzy TOPSIS decision making approach. *Management Science Letters, 5*(5), 447-456. doi: 10.5267/j.msl.2015.3.009

Rdiouat, Y., Nakabi, N., Kahtani, K., & Semma, A. (2012). Towards a new approach of continuous process improvement based on CMMI and PMBOK. *International Journal of Computer Science Issues (IJCSI), 9*(6), 160-168. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1314914073?accountid=12085

Rebaiaia, M-I., & Vieira, D. R. (2014). Integrating PMBOK standards, lean and agile methods in project management activities. *International Journal of Computer Applications, 88*(4), 40-46. doi: 10.5120/15343-3680

Reed, A. H., & Knight, L. V. (2013). Project duration and risk factors on virtual projects. *The Journal of Computer Information Systems, 54*(1), 75-83. doi:10.1080/08874417.2013.11645673

Rezania, D., Baker, R., & Burga, R. (2016). Project control: An exploratory study of levers of control in the context of managing projects. *Journal of Accounting & Organizational Change, 12*(4), 614-635. doi:10.1108/JAOC-10-2015-0084

Richardson, T. M., Earnhardt, M. P., & Marion, J. W. (2015). Is project management still an accidental profession? A qualitative study of career trajectory. *SAGE Open, 5*(1) doi:10.1177/2158244015572098

Robert, W. E. (2016). Grounded theory design. *Journal of Visual Impairment & Blindness (Online), 110*(3), 213. Retrieved from

http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1795747633?accountid=12085

Romsdal, A., Strandhagen, J. O., & Dreyer, H. C. (2014). Can differentiated production planning and control enable both responsiveness and efficiency in food production? *International Journal on Food System Dynamics, 5*(1), 34-43. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=IsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-01-01:2017-06-20&l=en&q=(efficiency%20food%20production)&oaf=t

Rosa, D. V., Chaves, M. S., Oliveira, M., & Pedron, C. (2016). Target. *International Journal of Managing Projects in Business, 9*(3), 654-681. doi:10.1108/IJMPB-12-2015-0120

Roulet, T. J., Gill, M. J., Stenger, S., & Gill, D. J. (2017). Reconsidering the value of covert research: The role of ambiguous consent in participant observation. *Organizational Research Methods, 20*(3), 487-517. doi:10.1177/1094428117698745

Rui Manuel da, S. G. (2013). Contributions of the PMBOKto the project management of an ERP system implementation. *Revista De Gestão e Projetos, 4*(2), 153. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1670982779?accountid=12085

Ruiz-Martin, C., & Poza, D. J. (2015). Project configuration by means of network theory. *International Journal of Project Management, 33*(8), 1755-1767. doi: 10.1016/j.ijproman.2015.07.010

Rutherford, B. A. (2016). The struggle to fabricate accounting narrative obfuscation: An actor-network-theoretic analysis of a failing project. *Qualitative Research in Accounting & Management, 13*(1), 57-85. doi:10.1108/QRAM-06-2015-0060

Ryynänen, T., & Hakatie, A. (2014). "We must have the wrong consumers" – a case study on new food product development failure. *British Food Journal, 116*(4), 707-722. doi:10.1108/BFJ-08-2012-0215

Saeed, F., Grunert, K. G., & Therkildsen, M. (2013). How product trial changes quality perception of four new processed beef products. *Meat Science, 93*(1), 119-127. doi: 10.1016/j.meatsci.2012.08.014

Saldaña, J. (2003). Dramatizing data: A primer. *Qualitative Inquiry, 9*(2), 218-236. doi:10.1177/1077800402250932

Saldaña, J. (2016). The coding manual for qualitative researchers. Thousand Oaks, CA: Sage Publications, Inc.

Saravacos, G., & Kostaropoulos, A. E. (2016). *Handbook of food processing equipment (2nd ed.).* Cham: Springer Verlag. doi:10.1007/978-3-319-25020-5

Sareminia, S., Shamizanjani, M., Mousakhani, M., & Manian, A. (2016). Project knowledge management: An ontological view. *Knowledge Management & E-Learning: An International Journal, 8*(2), 292-316. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Dissertation,f%7CContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf

=PublicationDate,2012-01-01:2017-06-18&l=en&q=(knowledge%20management)&oaf=t

Sarmad, F. (2012). Optimizing product development projects - IFI inc.: A case study in the food and beverage industry. *The ISM Journal of International Business, 1*(4), 33. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1223915108?accountid=12085

Sattler, D. N., McKnight, P. E., Naney, L., & Mathis, R. (2015). Grant peer review: Improving inter-rater reliability with training. *PloS One, 10*(6), e0130450. doi: 10.1371/journal.pone.0130450

Savolainen, P., Ahonen, J. J., & Richardson, I. (2012). Software development project success and failure from the supplier's perspective: A systematic literature review. *International Journal of Project Management, 30*(4), 458. doi:10. 1016/j.ijproman.2011.07.002

Schoonenboom, J., & Johnson, R. B. (DATE?). How to construct a Mixed methods research design. *KZfSS Kölner Zeitschrift Für Soziologie Und Sozialpsychologie, 69*(S2), 107-131. doi:10.1007/s11577-017-0454-1

Seidman, I. (2013). *Interviewing as qualitative research*. New York, NY: Teachers College Press.

Sergiu, G. (2015). Developing the organizational culture. *Revista De Management Comparat International, 16*(1), 137-143. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1708137561?accountid=12085

Serrador, P., & Pinto, J. K. (2015). Does agile work? A quantitative analysis of agile project success. *International Journal of Project Management, 33*(5), 1040-1051. doi: 10.1016/j.ijproman.2015.01.006

Serrador, P., & Turner, R. (2015). The relationship between project success and project efficiency. *Project Management Journal, 46*(1), 30-39. doi:10.1002/pmj.21468

Serrador, P., & Turner, R. (2015). What is enough planning? Results from a global quantitative study. *IEEE Transactions on Engineering Management*, 62(4), 462-474. doi: 10.1109/TEM.2015.2448059

Sertyesilisik, B. (2016). Embending sustainability dynamics in the lean construction supply chain management. *YBL Journal of Built Environment, 4*(1), 60-78. doi:10.1515/jbe-2016-0006

Setia, M. (2016). Methodology series module 5: Sampling strategies. *Indian Journal of Dermatology, 61*(5) doi: 10.4103/0019-5154.190118

Shen, X., Minku, L. L., Bahsoon, R., & Yao, X. (2016). Dynamic software project scheduling through a proactive-rescheduling method. *IEEE Transactions on Software Engineering, 42*(7), 658-686. doi:10.1109/TSE.2015.2512266

Shih-Tse Wang, E., & Tsai, B. (2014). Consumer response to retail performance of organic food retailers. *British Food Journal, 116*(2), 212-227. doi:10.1108/BFJ-05-2012-0123

Shirazi, F., Kazemipoor, H., & Tavakkoli-Moghaddam, R. (2017). Fuzzy decision analysis for project scope change management. *Decision Science Letters, 6*(4), 395-406. doi: 10.5267/j.dsl.2017.1.003

Shnayder, L., van Rijnsover, F. J., & Hekkert, M. P. (2016). Motivations for corporate social responsibility in the packaged food industry: an institutional and stakeholder management

perspective. *Journal of Cleaner Production, 122*, 212-227. doi: 10.1016/j.jclepro.2016.02.030

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of Cronbach's alpha. *Psychometrika, 74*(1), 107-120. doi:10.1007/s11336-008-9101-0

Simonin, H., Duranton, F., & de Lamballerie, M. (2012). New insights into the high-pressure processing of meat and meat products. *Comprehensive Reviews in Food Science and Food Safety, 11*(3), 285–306. doi:10.1111/j.1541-4337.2012.00184.x

Sin, S. (2010). Considerations of quality in phenomenographic research. *International Journal of Qualitative Methods, 9*(4), 305-319. doi:10.1177/160940691000900401

Sinclair, U. (2016). *The Jungle*. New York, NY: Clydesdale Press.

Singh, G. G., Sinner, J., Ellis, J., Kandlikar, M., Halpern, B. S., Satterfield, T., & Chan, K. (2017). Group elicitations yield more consistent, yet more uncertain experts in understanding risks to ecosystem services in New Zealand bays. *PLoS One, 12*(8) doi: 10.1371/journal.pone.0182233

Skalik, J. (2012). Organizational forms of coordination and integration of activities in project management. *Management, 16*(1), 75-85. doi:10.2478/v10286-012-0006-8

Smiljanic, J., & Dankulov, M. M. (2017). Associative nature of event participation dynamics: A network theory approach. *PLoS One, 12*(2) doi: 10.1371/journal.pone.0171565

Smit, M. C., Bond-Barnard, T. J., Steyn, H., & Fabris-Rotelli, I. (2017). Email communication in project management: A bane or a blessing? *South African Journal of Information Management, 19*(1), 1-10. doi:10.4102/sajim.v19i1.826

Smith, S., & van der Heijden, H. (2017). Analysts' evaluation of KPI usefulness, standardisation and assurance. *Journal of Applied Accounting Research, 18*(1), 63-86. doi:10.1108/JAAR-06-2015-0058

Snelson, C. L. (2016). Qualitative and mixed methods social media research: A review of the literature. *International Journal of Qualitative Methods, 15*(1) doi:10.1177/1609406915624574

Solís-Carcaño, R. G., Corona-Suárez, G. A., & García-Ibarra, A. J. (2015). The use of project time management processes and the schedule performance of construction projects in Mexico. *Journal of Construction Engineering, 2015*, 1-9. doi:10.1155/2015/868479

Souza-Monteiro, D., & Hooker, N. (2017). Comparing UK food retailers corporate social responsibility strategies. *British Food Journal, 119*(3), 658-675. doi:10.1108/BFJ-04-2016-0152

Stake, R. E. (1995). *The art of case study research*. Thousand Oaks: Sage Publications.

Stare, A. (2013). Agile project management – a future approach to the management of projects? *Dynamic Relationships Management Journal (DRMJ), 2*(1), 43-53. doi:10.17708/DRMJ.2013.v02n01a04

Steyn, H., Jordaan, J., & Pretorius, S. (2012). Project management maturity and project management success in the engineering and construction industries in southern Africa. *South African Journal of Industrial Engineering, 23*(3), 1-12. doi:10.7166/23-3-507

Stoica, M., Ghilic-Micu, B., Mircea, M., & Uscatu, C. (2016). Analyzing agile development - from waterfall style to scrumban. *Informatica Economica, 20*(4), 5. doi:10.12948/issn14531305/20.4.2016.02

Stoshikj, M., Kryvinska, N., & Strauss, C. (2014). Efficient managing of complex programs with project management services. *Global Journal of Flexible Systems Management, 15*(1), 25-38. doi:10.1007/s40171-013-0051-8

Stratakos, A. Ch. & Koidis, A. (2015). Suitability, efficiency and microbiological safety of novel physical technologies for the processing of ready-to-eat meals, meats and pumpable products. *International Journal of Food Science & Technology, 50,* 1283–1302. doi: 10.1111/ijfs.12781

Strelnik, E. U., Usanova, D. S., & Khairullin, I. G. (2015). Key performance indicators in corporate finance. *Asian Social Science, 11*(11), 269-373. doi: 10.5539/ass.v11n11p369

Stuart, D., & Worosz, M. R. (2012). Risk, anti-reflexivity, and ethical neutralization in industrial food processing. *Agriculture and Human Values, 29*(3), 287-301. doi:10.1007/s10460-011-9337-7

Suchánek, P., Richter, J., & Králová, M. (2015;2014;). Customer satisfaction, product quality and performance of companies. *Review of Economic Perspectives, 14*(4), 329-344. doi:10.1515/revecp-2015-0003

Suetin, S., Vikhodtseva, E., Nikitin, S., Lyalin, A., & Brikoshina, I. (2016). Results of agile project management implementation in software engineering companies. *Paper presented at the ITM Web of Conferences, 6,* 3016-3020. doi:10.1051/itmconf/20160603016

Suetina, T. A., Odinokov, M. Y., & Safina, D. M. (2014). Benefits of project management at lean manufacturing tools implementation. *Asian Social Science, 10*(20), 62-66. doi:10.5539/ass.v10n20p62

Sujit, K. S., & Rajesh, B. K. (2016). Determinants of discretionary investments: Evidence from Indian food industry. *SAGE Open, 6*(1), 215824401663642. doi:10.1177/2158244016636429

Sultan, A., & Bach, C. (2015). Knowledge management readiness in organizations. *International Journal of Scientific & Technology Research, 4*(6), 99-102. Retrieved from http://liberty.summon.serialssolutions.com/advanced#!/search?ho=f&fvf=ContentType,Dissertation,f%7CContentType,Journal%20Article,f%7CIsFullText,true,f%7CIsScholarly,true,f%7CContentType,Newspaper%20Article,t%7CContentType,Book%20Review,t&rf=PublicationDate,2012-01-01:2017-06-18&l=en&q=(knowledge%20management)&oaf=t

Sunder M., V. (2016). Lean Six Sigma project management - a stakeholder management perspective. *TQM Journal, 28*(1), 132-150. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1752996883?accountid=12085

Sweeney, A., Greenwood, K. E., Williams, S., Wykes, T., & Rose, D. S. (2013). Hearing the voices of service user researchers in collaborative qualitative data analysis: The case for multiple coding. *Health Expectations, 16*(4), e89-e99. doi:10.1111/j.1369-7625.2012.00810.x

Szabó, L., & Csepregi, A. (2015). Project organizations and their present and preferred culture. *Management Dynamics in the Knowledge Economy, 3*(4), 589-608. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1758484093?accountid=12085

Tariq, M. U. (2013). A Six Sigma based risk management framework for handling undesired effects associated with delays in project completion. *International Journal of Lean Six Sigma, 4*(3), 265-279. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1399637602?accountid=12085

Tavares, E. d. S., & Pessoa, Marcelo Schneck de Paula. (2014). Technological innovation projects: Proposal for an integrative model between project management and knowledge management in a customer-supplier perspective. *JISTEM - Journal of Information Systems and Technology Management, 11*(1), 105. doi:10.4301/S1807-17752014000100007

Taylor, K. J. (2016). Adopting agile software development: The project manager experience. *Information Technology & People, 29*(4), 670-687. doi:10.1108/ITP-02-2014-0031

Telles, R., Duarte, I. S., Queiroz, M. M., & Novaes, N. (2016). Job diagnostic survey: A team project information technology perspective. *Revista Científica Hermes, 16*, 69-89. doi:10.21710/rch.v16i0.294

Tepic, M., Fortuin, F., Kemp, R. G. M., & Omta, O. (2014). Innovation capabilities in food and beverages and technology-based innovation projects. *British Food Journal, 116*(2), 228-250. doi:10.1108/BFJ-09-2011-0243

Terzieva, M., & Morabito, V. (2016). Learning from experience: The project team is the key. *Business Systems Research Journal, 7*(1), 1-15. doi:10.1515/bsrj-2016-0001

Thamhain, H. (2012). The changing role of team leadership in multinational project environments. *Revista De Gestão e Projetos, 3*(2), 4-38. doi:10.5585/gep.v3i2.110

Thamhain, H. J. (2014). Assessing the effectiveness of quantitative and qualitative methods for R&D project proposal evaluations. *Engineering Management Journal, 26*(3), 3-12. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1561957577?accountid=12085

Tong, T., Yu, T. E., Jensen, K., De La Torre Ugarte, Daniel, & Cho, S. (2016). Impact of public infrastructure on output of U.S. food manufacturing industries: A heterogeneous dynamic panel approach. *Agribusiness, 32*(4), 439-453. doi: 10.1002/agr.21455

Torkko, M., Linna, A., Katajavuori, N., & Juppo, A. M. (2013). Quality KPIs in pharmaceutical and food industry. *Journal of Pharmaceutical Innovation, 8*(4), 205-211. doi:10.1007/s12247-013-9159-9

Troy, D. J., & Kerry, J. P. (2010). Consumer perception and the role of science in the meat industry. *Meat Science, 86*(1), 214-226. doi: 10.1016/j.meatsci.2010.05.009

Troy, D. J., Ojha, K. S., Kerry, J. P., & Tiwari, B. K. (2016). Sustainable and consumer-friendly emerging technologies for application within the meat industry: An overview. *Meat Science, 120*, 2-9. doi: 10.1016/j.meatsci.2016.04.002

Van Der Linde, J., & Steyn, H. (2016). The effect of a project management office on project and organisational performance: A case study. *The South African Journal of Industrial Engineering, 27*(1), 151-161. doi:10.7166/27-1-1114

Van Duzer, J. (2010). *Why business matters to God*. Downers Grove, IL: InterVarsity Press Academic.

van Iwaarden, J., & van der Wiele, T. (2012). The effects of increasing product variety and shortening product life cycles on the use of quality management systems. *International Journal of Quality & Reliability Management, 29*(5), 470 – 500. doi: 10.1108/02656711211230481

van Zanten, H. H. E., Mollenhorst, H., Klootwijk, C. W., van Middelaar, C.E., & de Boer, I. J. M. (2016). Global food supply: Land use efficiency of livestock systems. *The International Journal of Life Cycle Assessment, 21*(5), 747-758. doi: 10.1007/s11367-015-0944-1

Vasantha, G. V. A., Chakrabarti, A., & Corney, J. (2016). A knowledge flow model to capture unstructured product development processes. *Knowledge and Process Management, 23*(2), 91-109. doi:10.1002/kpm.1501

Verner, J., & Abdullah, L. (2012). Exploratory case study research: Outsourced project failure. *Information and Software Technology, 54*(8), 866-886. doi: 10.1016/j.infsof.2011.11.001

Viator, C. L., Muth, M. K., Brophy, J. E., & Noyes, G. (2017). Costs of food safety investments in the meat and poultry slaughter industries. *Journal of Food Science, 82*(2), 260-269. doi:10.1111/1750-3841.13597

Visser, M. M., Judith A. van Biljon, & Herselman, M. (2017). Evidence-based case selection: An innovative knowledge management method to cluster public technical and vocational education and training colleges in south africa. *South African Journal of Information Management, 19*(1), e1-e13. doi:10.4102/sajim.v19i1.751

Wang, F., Hsu, C., & Tzeng, G. (2014). Applying a hybrid MCDM model for six sigma project selection. *Mathematical Problems in Engineering, 2014*, 1-13. doi:10.1155/2014/730934

Wang, L., Labella, a., Rodríguez, R. M., Wang, Y., & Martínez, L. (2017). Managing non-homogeneous information and experts' psychological behavior in group emergency decision making. *Symmetry, 9*(10), 234-255. doi:10.3390/sym9100234

Wang, J., Yang, K., & Zhao, R. (2017). The impact of decision criteria on deadline-based incentive contracts in project management. *Journal of Intelligent Manufacturing, 28*(3), 643-655. doi:10.1007/s10845-014-0994-4

Wanniarachchi, W. N. C., Gopura, R. A. R. C, & Punchihewa, H. K. G. (2016). Development of a layout model suitable for the food processing industry. *Journal of Industrial Engineering*, 2016, 1-8. doi:10.1155/2016/2796806

Warshawsky, D. N. (2016). Food waste, sustainability, and the corporate sector: Case study of a US food company. *The Geographical Journal, 182*(4), 384-394. doi:10.1111/geoj.12156

Wei, N., Bao, C., Yao, S., & Wang, P. (2016). Earned value management views on improving engineering project management. *International Journal of Organizational Innovation (Online), 8*(4), 93-111. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1786613963?accountid=12085

Wengle, S. (2016). When experimentalist governance meets science-based regulations; the case of food safety regulations. *Regulation & Governance, 10*(3), 262-283. doi:10.1111/rego.12067

Wertz, F. J. (2001). Preface. *Journal of Phenomenological Psychology, 32*(2), iii+. Retrieved from http://ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?

p=GRGM&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA85472895&sid=summon&asid=8a38a344d7c03a4936257f2e7be5e4b9

Whyte, G., & Minnaar, D. (2014). Identifying the knowledge requirements of a new project entrant: An informing science approach. *Informing Science: The International Journal of an Emerging Transdiscipline, 17,* 275-294. Retrieved from http://ezproxy.liberty.edu/login?url=http://go.galegroup.com.ezproxy.liberty.edu/ps/i.do?p=AONE&sw=w&u=vic_liberty&v=2.1&it=r&id=GALE%7CA419929324&sid=summon&asid=7ce4f2fd2663253f198e2f70e09c7630

Wiese, J., Buehler, R., & Griffin, D. (2016). Backward planning: Effects of planning direction on predictions of task completion time. *Judgment and Decision Making, 11*(2), 147-167. Retrieved from http://ezproxy.liberty.edu/login?url=http://search.proquest.com.ezproxy.liberty.edu/docview/1778175875?accountid=12085

Wiewiora, A., Murphy, G., Trigunarsyah, B., & Brown, K. (2014). Interactions between organizational culture, trustworthiness, and mechanisms for inter-project knowledge sharing. *Project Management Journal, 45*(2), 48-65. doi:10.1002/pmj.21407

Wilson, V. (2016). Research methods: Design, methods, case study…oh my. *Evidence Based Library and Information Practice, 11*(1), 39-40. Retrieved from https://journals.library.ualberta.ca/eblip/index.php/EBLIP/article/view/27173/20141

Winch, G. M. (2015). Project organizing as a problem in information. *Construction Management & Economics*, *33*(2), 106-116. doi: 10.1080/01446193.2015.1021703

Windapo, A. O., Oyewobi, L., & Zwane, Z. (2014). Investigation of stakeholders' awareness and adoption of inherently safer design (ISD) principles in South African utility industry projects. *Journal of Loss Prevention in the Process Industries, 32,* 152-160. doi: 10.1016/j.jlp.2014.08.006

Wohlgenant, M. K. (2013). Competition in the US meatpacking industry. *Annual Review of Resource Economics, 5*(1), 1-12. doi:10.1146/annurev-resource-091912-151807

Woods, M., Paulus, T., Atkins, D. P., & Macklin, R. (2016). Advancing qualitative research using qualitative data analysis software (QDAS)? reviewing potential versus practice in published studies using ATLAS.ti and NVivo, 1994–2013. *Social Science Computer Review, 34(5*), 597-617. doi:10.1177/0894439315596311

Wrock, R. K. (2016). Ignorance is bliss: Self-regulation and ag-gag laws in the American meat industry. *Contemporary Justice Review, 19*(2), 267-279. doi: 10.1080/10282580.2016.1168256

Wu, Q., & Cormican, K. (2016). Shared leadership: An analysis of the evolvement process across the project life cycle. *International Journal of Innovation, Management and Technology, 7*(6), 299-303. doi: 10.18178/ijimt.2016.7.6.690

Wu, M., Wu, H., Xie, T., & Lu, J. (2015). Research on conflict behavior of top management team in family enterprises: A complex network perspective. *Mathematical Problems in Engineering, 2015,* 1-12. doi:10.1155/2015/524328

Wyser, Y., Adams, M., Avella, M., Carlander, D., Garcia, L., Pieper, G., . . . Weiss, J. (2016). Outlook and challenges of nanotechnologies for food packaging. *Packaging Technology and Science, 29*(12), 615-648. doi:10.1002/pts.2221

Xie, M., & Qiao, Q., Sun, Q., & Zhang, L. (2012). Life cycle assessment of composite packaging waste management – a Chinese case study on aseptic packaging. *The International Journal of Life Cycle Assessment, 18*(3), 626-635. doi: 10.1007/s11367-012-0516-6

Xie, X., & Li, J. (2012). Modeling, analysis and continuous improvement of food production systems: A case study at a meat shaving and packaging line. *Journal of Food Engineering, 113*(2), 344-350. doi: 10.1016/j.jfoodeng.2012.05.022

Yan, Y., & Liu, H. (2016). Review of oil and gas development life cycle project management (LCPM). *Engineering, 8*(3), 74-78. doi:10.4236/eng.2016.83009

Yang, L., Chen, J., & Wang, X. (2015). Assessing the effect of requirement definition and management on performance outcomes: Role of interpersonal conflict, product advantage and project type. *International Journal of Project Management, 33*(1), 67-80. doi: 10.1016/j.ijproman.2014.02.012

Yang, R. J., Zou, P. X., & Wang, J. (2016). Modelling stakeholder-associated risk networks in green building projects. *International Journal of Project Management, 34*(1), 66-81. doi: 10.1016/j.ijproman.2015.09.010

Yashin, V., & Semenov, A. (2014). The analysis of existing models and the ways of the improvement of innovative projects and processes management. *Applied Technologies and Innovations, 10*(2), 44-47. doi:10.15208/ati.2014.07

Yin, R. K. (2012). *Applications of case study research* (3rd ed.). Los Angeles, CA: SAGE Publications.

Yin, R. K. (2013). Validity and generalization in future case study evaluations. *Evaluation, 19*(3), 321-332. doi:10.1177/1356389013497081

Yin, R. K. (2014). *Case study research: design and methods*. Los Angeles, CA: SAGE Publications.

Young, R., & Poon, S. (2013). Top management support - almost always necessary and sometimes sufficient for success: Findings from a fuzzy set analysis. *International Journal of Project Management, 31*(7), 943-957. doi: 10.1016/j.ijproman.2012.11.013

Yugue, R. T., & Antonio Cesar Amaru Maximiano. (2013). Understanding and managing project complexity. *Revista De Gestão e Projetos, 4*(1), 1-22. doi:10.5585/gep.v4i1.109

Yun, S., Choi, J., de Oliveira, D. P., & Mulva, S. P. (2016). Development of performance metrics for phase-based capital project benchmarking. *International Journal of Project Management, 34*(3), 389-402. doi: 10.1016/j.ijproman.2015.12.004

Zeynalian, M., Trigunarsyah, B., & Ronagh, H. R. (2013). Modification of advanced programmatic risk analysis and management model for the whole project life cycle's risks. *Journal of Construction Engineering & Management, 139*(1), 51-59. doi:10.1061/(ASCE)CO.1943-7862.0000571

Zhang, L., & Huo, X. (2015). The impact of interpersonal conflict on construction project performance. *International Journal of Conflict Management, 26*(4), 479-498. doi:10.1108/IJCMA-09-2014-0072

Zhang, M., & Jin, M. (2014). Two staged incentive contract focused on efficiency and innovation matching in critical chain project management. *Journal of Industrial Engineering and Management, 7*(4), 919-931. doi:10.3926/jiem.1154

Zhang, Y. N. (2014). Design of the whole life-cycle information management mechanism of project. *Applied Mechanics and Materials, 556-562*, 6544-6547. doi: 10.4028/www.scientific.net/AMM.556-562.6544

Ziek, P., & Anderson, J. D. (2015). Communication, dialogue and project management. *International Journal of Managing Projects in Business, 8*(4), 788-803. doi:10.1108/IJMPB-04-2014-0034

Appendix A – Interview Questions

1. How did *Project A* start?
2. Was the start of *Project A* the typical way in which projects started at *Company A*? Please explain the process of projects at Company A.
3. Would you describe your involvement with *Project A*?
4. Did the scope of Project *A* change? If so, please describe those changes.
5. If changes occurred in *Project A*, who or what made those changes? Were changes typical of all project at your company or just this project?
6. How did *Project A* effect you personally?
7. Describe your organization.
8. Were you rated on your performance and work on *Project A*?
9. How was your performance measured?
10. Were there rewarded or punishment related to projects? Explain.
11. In your opinion, what were the drivers of the project?
12. What was the interaction between you and others on the project team? Describe.
13. Was there any waste related to the project? If so, would you elaborate?
14. What was the final project's outcome? Cost? Time? Quality?
15. How did the various stakeholders interact with the project?
16. What relationship did you have with others on the project? Please describe.
17. Was the internal customer satisfied with the end result of the project?
18. What did you base your determination of internal customer satisfaction?
19. Was the external customer satisfied with the end result of the project?
20. What did you base your determination of external satisfaction?