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Strategies to Secure Sustainable Funding for the Successful Conclusion of Infrastructure Projects

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
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MASTER de Droit, Economie, Gestion, Mention Analyse Economique et Développement International, spécialité Maîtrise d'ouvrage publique et privée, à finalité Professionnelle, Université d'Auvergne Clermont-Ferrand I, 2015

MSc Project Management, University of Mauritius, 2007

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

Construction industry leaders who neglect to implement appropriate project funding strategies harm business operations and lose profits. Inadequate funding is also a significant cause of project failures in the global construction sector. The purpose of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The population comprised 5 leaders of organizations owning construction projects in the Middle Eastern Gulf Cooperation Council states, with successful strategies to acquire adequate funding for completing infrastructure projects. Data were collected from semistructured interviews with the business leaders and reports published by prominent organizations involved in funding infrastructure projects. The modern portfolio theory formulated the conceptual framework. Through thematic analysis, 5 themes emerged: address project funding issues promptly, select projects with high returns and low risks, use project financial management processes to manage project funds, apply a project finance structure for large-scale projects, and implement an Islamic finance scheme for eligible projects. The potential contributions of the study include communities benefitting from improved well-being and construction business employees enjoying higher job security, enhanced working conditions, and better standards of living for their families.

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Dedication

I dedicate this study to my wife Shabneez, my mother Nazli, my father Ismael, and other members of my family for their prayers, love, and support during my doctoral journey.

Acknowledgments

The Doctor of Business Administration – Project Management program was a demanding but rewarding experience. I am profoundly grateful to the Almighty God for giving me the capacity, courage, patience, and serenity to fulfill my dream of becoming a doctor in my field of specialization. A special recognition goes to my awesome chair, Dr. Carol-Anne Faint, for her outstanding mentorship, dedicated guidance, stimulating feedback, and committed support. She always motivated me to keep going and make things happen despite the various challenges encountered in my doctoral journey. Moreover, I show my appreciation to my second committee member, Dr. Janet Booker, as well as my university research reviewer, Dr. Judith Blando, for their positive and constructive comments, which allowed me to improve the quality of my doctoral study. Furthermore, I convey my thanks to the research methodologist, Dr. Al Endres, for his insightful suggestions the program director, Dr. Susan Davis, for her excellent leadership, and Dr. Sara Witty for her helpful edits. I extend my appreciation to all participants in my study for their valued efforts, my instructors at Walden University for their excellent teachings, and my classmates for their valuable inspirations. Besides, I express my gratitude to my fabulous wife, who always believed in me and stood by my side all the way to comfort and uplift me. I am also grateful to my wonderful mother and father, who made countless sacrifices since the day I was born to ensure I always get all the best in life. I am forever indebted to them and I apologize for having appropriated the time, which I should have devoted to them, to work on my doctoral study. Finally, in order not to miss anyone, I thank all those who contributed to my accomplishment in any possible way.

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Section 1: Foundation of the Study

Construction business leaders need funds to execute infrastructure projects successfully; however, funds are scarce, and many construction project owners experience financial difficulties during the project (Javed & Fida, 2015). Project participants, including contractors, consultants, and suppliers, may constantly receive late, inadequate, or even nil payments (Ramachandra & Rotimi, 2015). Funding issues adversely affect the business operations of the project participants to a significant level, coercing them to terminate their services under their respective contracts (Nguyen & Chileshe, 2015). Recurrent failures in the implementation of infrastructure projects may lead to a severe socioeconomic crisis. My goal for this study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects.

Background of the Problem

In developing countries, both the public and private sectors need to upgrade the infrastructure rapidly to ensure sustainable and long-term economic growth (Lu, Peña-Mora, Wang, Shen, & Riaz, 2015). The construction project owners in developing countries frequently lack sufficient conventional funds required to build and maintain quality and efficient infrastructure (Javed & Fida, 2015). The project owners either defer or annul the implementation of critical projects, which they previously earmarked in their budgets. At other times, the project owners reduce the scopes of essential projects or split the projects into phases, resulting in incomplete undertakings. For example, the Mauritian government intended to implement the construction of a ring road to reduce traffic

congestions within the capital city of Port Louis. The state had to finance other top-priority social impact projects, such as the construction of reservoirs, hospitals, and schools. Given the scarcity of financial resources in Mauritius, the government postponed the execution of the ring road and reallocated the funds for the construction of a dam to alleviate the water shortage in Mauritius. Project owners in the private sector confront similar funding challenges.

Problem Statement

Delayed contract payments to contractors, consultants, and suppliers in the construction industry may lead to terminated contracts before completion of projects (Ramachandra & Rotimi, 2015). Nguyen and Chileshe (2015) reported 50% of construction project failures are attributable to financial difficulties experienced by construction project owners. The general business problem was that construction project owners unable to pay contractors, consultants, and suppliers for the executed works, may harm business operations and lose profits. The specific business problem was that some construction project owners lack strategies to secure sustainable funding for the successful conclusion of infrastructure projects.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The population for the study consisted of leaders of organizations owning construction projects in Middle Eastern countries forming part of the Gulf Cooperation Council (GCC), with successful strategies to secure sustainable

funding for completing infrastructure projects. The study may contribute to social change by ensuring communities benefit from successfully implemented infrastructure projects. A stable building sector implies adequate incomes for project owners, contractors, consultants, and suppliers operating in the construction industry. A stable building sector contributes significantly to economies and may ensure higher job security and improved working conditions for people employed by construction businesses.

Nature of the Study

Researchers choose between three research methods: the qualitative, the quantitative, and the mixed methods approach. The qualitative method is associated with the positivism philosophy and a qualitative researcher focuses on the collection of narrative explanations of business decision-making processes (Saunders, Lewis, & Thornhill, 2016). Daher, Carré, Jaramillo, Olivares, and Tomicic (2017) posited a qualitative researcher studies a phenomenon through the experiences and inferences of participants. The qualitative approach was appropriate for this study as the procedure consisted of using open-ended interview questions (see Appendix A) to learn from the experiences and inferences of business leaders.

The quantitative method is based on the interpretivism philosophy and quantitative researchers focus on the collection and measurement of data as well as on statistical and graphical analysis to examine variables' relationships or differences (Saunders et al., 2016). The quantitative approach was not suitable for this study as it was not my goal to examine statistical data to explain the *how* and *what* questions driving the investigation. The mixed methods researcher combines the use of qualitative and

quantitative data collection and analysis techniques (Saunders et al., 2016). The inclusion of quantitative analysis rendered the mixed methods approach an unsuitable choice for this study.

I considered the following qualitative research designs: ethnography, narrative inquiry, and case study design. Ethnographic researchers carry out an in-depth study of the research subjects within a unique cultural context (Saunders et al., 2016). The ethnographic design was improper for this study because neither culture nor uniqueness was an identifier separating the selected business owners from the population norm. The narrative researcher engages in the collection and analysis of the participants' experiences as complete stories rather than fragmented data (Saunders et al., 2016). The narrative inquiry strategy was not suitable because life histories might not be relevant in business owner strategies for decision-making processes in this study. Researchers conduct case studies to explore the interaction between a phenomenon and the context (Saunders et al., 2016). Yin (2017) described a case study as a detailed investigation into a research topic within its real-world context, using multiple sources of evidence. The case study design was appropriate for my doctoral study because I could explore the phenomenon, using open-ended questions (see Appendix A) and reviewing available documentation.

Research Question

The central research question was: What strategies do construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects?

Interview Questions

1. How have delayed or insufficient payments affected the outcome of your project and impacted your business?
2. What strategies did you find worked best to secure sustainable funding for the effective conclusion of your infrastructure projects?
3. How do you arrange payments to complete a project?
4. How did you assess the effectiveness of your strategies for securing sustainable funding for your infrastructure projects?
5. What were the key barriers to implementing your organization's successful strategies for securing sustainable funding for your infrastructure projects?
6. How did your organizational leaders overcome the key barriers to applying your organization's successful strategies for securing sustainable funding for your infrastructure projects?
7. What additional information can you provide to help me understand the strategies your organization uses to secure sustainable funds for the successful conclusion of infrastructure projects?

Conceptual Framework

The modern portfolio theory (MPT) was an appropriate conceptual framework to use in this doctoral study because project funding strategies relate to investments, expected returns, business risks, securities, and financial models. Professor Harry Max Markowitz developed the MPT in 1952 (Fabozzi & Grant, 2001). The MPT addresses the selection of portfolios, which maximize expected returns consistent with the investor's

acceptable levels of risk. Through the quantification of the expected portfolio returns and the acceptable levels of portfolio risks, the MPT helps the investor to build an optimal portfolio (Fabozzi & Grant, 2001; Levin & Wyzalek, 2015). A portfolio manager may use the MPT to recommend a portfolio of projects, which will create optimum organizational value without putting the organization at risk (Kaiser, El Arbi, & Ahlemann, 2014). Researchers using the MPT apply mathematical models to analyze portfolios of all sizes and types. Researchers still applied the theory in 2013, to develop financial models (Francis & Kim, 2013). The fundamental tenet of the MPT is that potential investors will consider a portfolio of projects if the expected returns are attractive and the risk levels are within the tolerable range. The other underlying principle of the MPT is potential investors will select the project with the highest expected return. Another essential precept of the MPT is potential investors will choose the project with the lowest risk level (Fabozzi & Grant, 2001).

Business leaders are using project finance strategies to address funding issues in the construction industry (Gatti, 2013). Project owners apply project finance strategies by setting up a specific venture. Creditors invest in the project by sharing the venture's business risks and holding the project's assets as security (Pinto, 2017). The MPT was relevant to this study because I used the conceptual framework in analyzing the collected data to understand the various components of project finance, such as investments, forecasted returns, business risks, securities, and financial models, which construction project owners used to secure sustainable funding for the successful conclusion of infrastructure projects.

Operational Definitions

The following are the specialized terms, including Arabic words, that I used in the study.

Fiqh muamalat: Fiqh muamalat is the collection of Islamic rules on commercial transactions and forms part of the Islamic law, known as *sharia* (Khediri, Charfeddine, & Youssef, 2015; Salman & Nawaz, 2018).

Gharar: Gharar is a transaction made under uncertain conditions, which the sharia prohibits (Duncan, Desai, & Rieger, 2004; Kabir & Soumaré, 2015; Salman & Nawaz, 2018).

Ijarah: Ijarah is a trading technique based on a lease agreement whereby an Islamic financial institution purchases an asset requested by a client from a third party (Duncan et al., 2004; Kabir & Soumaré, 2015; Lasa, Ahmad, & Takim, 2016; Salman & Nawaz, 2018).

Maysir: Maysir is a transaction based on gambling or speculation, which the sharia prohibits (Duncan et al., 2004; Kabir & Soumaré, 2015; Salman & Nawaz, 2018).

Mudharaba: Mudharaba is an Islamic financing approach whereby depositors place their capital with an Islamic financial institution and the latter invests the money to build a sharia-compliant fund (Duncan et al., 2004; Lakis & Baltušytė, 2017; Rudnyckyj, 2014; Salman & Nawaz, 2018).

Murabahah: Murabahah is a trading method based on credit facility whereby an Islamic financial institution purchases an asset requested by a client from a third party (Duncan et al., 2004; Kabir & Soumaré, 2015; Salman & Nawaz, 2018).

Musharakah: Musharakah is a trading method based on equity investment whereby an Islamic financial institution and a project sponsor invest capital in partnership in a project (Kabir & Soumaré, 2015; Lakis & Baltušytė, 2017; Lasa et al., 2016; Salman & Nawaz, 2018).

Project finance: Project finance is the process of investing in a specific economic unit set up by the project owners, in which creditors invest in the project by sharing the venture's business risks and holding the project's assets as security (Pinto, 2017).

Riba: Riba refers to an unfair increase in capital earned by taking interests in moneylending transactions, which the sharia prohibits (Duncan et al., 2004; Kabir & Soumaré, 2015; Khediri et al., 2015; Salman & Nawaz, 2018).

Sukuk: Sukuks are Islamic bonds, trust certificates, titles, or securities, which an Islamic financial institution issues to raise capital (Duncan et al., 2004; Kabir & Soumaré, 2015).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are factual beliefs, which are indispensable to carry out a study but cannot be proven by the researcher (Pyrczak & Bruce, 2017; Simon & Goes, 2018). Researchers make assumptions when interviewing participants because of time and effort constraints associated with validating the answers of each participant (Simon & Goes, 2018). I assumed the interview participants would have adequate knowledge of their organization's strategies to secure sustainable funding for the implementation of infrastructure projects. Another assumption was the participants formed part of the team

developing or applying project funding strategies to assure knowledgeable responses. I assumed all the interview participants would reply to my interview questions (see Appendix A) honestly and factually. To promote honest and factual answers, the subsequent action was to submit a consent form to all participants to inform them I would not reveal their identities and would preserve the confidentiality of any classified information provided. I also notified the interview participants of their rights to refuse to answer any question. My next assumption was that the participants in the study would generally represent business leaders possessing sufficient knowledge of construction project funding strategies in the Middle East.

Limitations

Limitations are potential weaknesses, constraints, or flaws that are beyond the control of the researcher and can influence the outcome and validity of a study (Pyrczak & Bruce, 2017; Simon & Goes, 2018). Researchers should specify the limitations of their studies to avoid the inappropriate generalizations of their findings and conclusions (Simon & Goes, 2018). My research included only organizations with successful strategies to secure sustainable funding for concluding infrastructure projects. I limited the study to five organizations in Middle Eastern countries, forming part of the GCC, and conducted my research in 2019. The interview participants might have provided biased responses. The participants in the study might also have been reluctant to share all their information on project funding strategies. Researchers will not be able to replicate the conclusions and recommendations of my study if the settings of their research are relatively different.

Delimitations

Delimitations are deliberate boundaries of a study that are within the control of the researcher and define the scope of the study (Pyrczak & Bruce, 2017; Simon & Goes, 2018). Researchers should indicate the delimitations of their studies to explain the scopes of their research works (Simon & Goes, 2018). The study included only organizations owning infrastructure projects because the objective of my research was to study strategies to secure sustainable funding for completing infrastructure projects. I selected organizations in Middle Eastern countries, forming part of the GCC, because these organizations have successful project funding strategies, and included five organizations because of time constraints to complete the research. Researchers will not be able to generalize the conclusions and recommendations of my study if the scope of their research is not similar.

Significance of the Study

In developing countries, both the public and private sectors need to upgrade the infrastructure rapidly to ensure sustainable and long-term economic growth (Lu et al., 2015; Zawawi, Ahmad, Umar, Khamidi, & Idrus, 2014). The construction project owners in developing countries frequently lack sufficient conventional funds required to build and maintain quality and efficient infrastructure (Javed & Fida, 2015). Shortage of funds may lead to project failures (Nguyen & Chileshe, 2015).

Contribution to Business Practice

The findings of my study may benefit the construction industry by helping project owners to lower the rate of project failures attributable to inadequate funds. My research

may contribute to the effective practice of business by supporting construction project owners in the application of innovative project finance strategies to improve their abilities to secure stable funding. Through the implementation of sustainable project financing solutions, construction project owners may pay contractual parties, including contractors, consultants, and suppliers on time. Punctual disbursements may lead to the successful executions of projects and bring stability to the construction sector.

Implications for Social Change

A successfully implemented infrastructure project may bring substantial benefits to local communities. For example, the construction of a hospital project in a city may enhance the quality of life of the residents by improving their access to essential healthcare services. A stable building sector infers adequate incomes for project owners, contractors, consultants, and suppliers operating in the construction industry. A stable building sector contributes significantly to economies and may ensure higher job security, improved working conditions for people employed by construction businesses, and higher standards of living for their families. A booming construction industry may also benefit local dependent enterprises, such as manufacturers of materials, wholesale traders, local suppliers, and insurance companies (States News Service, 2016).

A Review of the Professional and Academic Literature

The objective of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. Construction business leaders need funds to execute infrastructure projects successfully; however, funds are scarce, and many construction

project owners experience financial difficulties during the project (Javed & Fida, 2015). Project participants, including contractors, consultants, and suppliers, may constantly receive late, inadequate, or even zero payments (Ramachandra & Rotimi, 2015). The funding issues adversely affect the business operations of the project participants to a significant level, forcing them to terminate their services under their respective contracts (Nguyen & Chileshe, 2015). Recurrent failures in the implementation of infrastructure projects may result in a relentless socioeconomic crisis.

Saunders et al. (2016) described a literature review as a critical analysis that develops a clear line of reasoning about published research studies, which are related to the research question. In this literature review section, I present a general background on previous studies related to infrastructure project funding challenges and project funding strategies. The objective of the literature review was to provide the reader with knowledge about the topic of innovative and sustainable project financing. I organized the literature review into subsections: (a) the relevant theories, (b) economic and social importance of investing in infrastructure projects, (c) challenges in funding infrastructure projects, (d) innovative and sustainable business strategies to address infrastructure project funding challenges, (e) Islamic project finance as an innovative and sustainable strategy for funding infrastructure projects.

I derived most of the information published in the literature review from peer-reviewed scholarly journals. The primary search terms I used to extract this information were *infrastructure investment, project funding challenges, project funding strategies, project finance,* and *Islamic finance*. I searched the literature using a variety of business

and management databases such as ABI/INFORM Collection, Business Source Complete, Emerald Insight, SAGE Journals, ScienceDirect, and ProQuest Central. The other reference materials include textbooks and government reports. I reviewed 65 different peer-reviewed articles, which represent 85% of all sources. Sixty-eight percent of all sources have a publication date of five years or less from my anticipated doctoral study completion date. I complied with the updated DBA doctoral study rubric requirements. Table 1 presents a summary of the literature review sources by type and frequency.

Table 1

Summary of Source Type and Frequency

	Older	2015	2016	2017	2018	2019	Total	%
Peer-reviewed Journals	21	18	16	5	4	1	65	85
Dissertations	0	0	0	0	0	0	0	0
Government Publications	0	0	1	0	1	0	2	3
Textbooks	4	1	3	1	0	0	9	12
Total	25	19	20	6	5	1	76	100

Relevant Theories

I reviewed the literature about project funding and observed researchers often refer to capital market theories (CMTs). Theorists grounded CMTs on financial, economic, and statistical theories (Fabozzi & Grant, 2001). CMTs are prevalent in the

finance industry because business leaders use the theories as investment decision-making tools (Širůček & Křen, 2015; Stapleton, 1999). Financiers also use CMTs to develop financial plans (Nawrocki, 1997). CMTs relate investment returns to risks (Fabozzi & Grant, 2001; Stapleton, 1999). Based on CMTs, a business leader will invest in an asset where the returns are highest and the risks lowest (Širůček & Křen, 2015).

The fundamental tenet of the CMT is investors make their decisions based on the expected return and variance (Fabozzi & Grant, 2001). This tenet means for the same risk, an investor will choose the project with the highest return. The other important principle of a CMT is investors are rational and risk averse (Fabozzi & Grant, 2001). This principle implies for the same expected return, a business leader will choose the project with the lowest risk. Another essential precept of a CMT is investors will provide funds for the same period, irrespective of the nature of the project (Fabozzi & Grant, 2001). This precept is a simplifying assumption to address the complexity of assessing assets based on varying investment time horizons. Two prevalent capital market theories, the MPT and the capital asset pricing model (CAPM), were relevant to my conceptual framework. Business leaders may use the MPT or the CAPM to prepare and assess various funding schemes (Nawrocki, 1997).

The modern portfolio theory (MPT). Professor Harry Max Markowitz developed the MPT in 1952 (Fabozzi & Grant, 2001). The theorist, born in 1927, is a renowned American economist and works as an adjunct professor at the University of California, San Diego. He is also the principal of Harry Markowitz Company, which is an investment consulting firm. Professor Markowitz won the Von Neumann Prize in

operations research theory in 1989 (Markowitz, 2019). The Royal Swedish Academy of Sciences awarded him the Nobel Memorial Prize in economic sciences in 1990 for his work on the MPT (Markowitz, 2019; Širůček & Křen, 2015). Professor Markowitz also won the Wharton-Jacobs Levy Prize for quantitative financial innovation in 2013 (Markowitz, 2019). Business leaders invested trillions of dollars based on the MPT (Vaclavik & Jablonsky, 2012).

Prior to the MPT, investors assessed returns and risks subjectively without quantification. Business leaders focused on individual assets instead of portfolios (Fabozzi & Grant, 2001). The MPT addresses the selection of portfolios, which maximize expected returns consistent with the investor's acceptable levels of risk (Fabozzi & Grant, 2001; Levin & Wyzalek, 2015; Širůček & Křen, 2015). Returns on assets are uncertain because investors cannot guarantee the returns they will realize when they will sell the asset or when they will receive dividends. This uncertainty on returns means investments carry risks (Fabozzi & Grant, 2001). Investors evaluate risks by assessing the probability of loss, the expected loss value, and the maximum loss value (Markowitz, 1970). Business leaders using the MPT develop strategies to obtain maximum value from investment funds while mitigating the threat of losses (Širůček & Křen, 2015). The principle of the MPT is investors who develop diversified portfolios achieve better compromises between returns and risks (Arici, Dalai, Leonardi, & Spalvieri, 2018; Blakey, 2006a; Markowitz, 1952; Markowitz, 1970; Vaclavik & Jablonsky, 2012). Through the quantification of the expected portfolio returns and the acceptable levels of portfolio risks, the MPT helps the investor to build an optimal portfolio (Blakey, 2006a;

Fabozzi & Grant, 2001; Levin & Wyzalek, 2015; Širůček & Křen, 2015; Vaclavik & Jablonsky, 2012).

The components of a portfolio are known as securities or assets. An investor assesses the expected returns and volatility of the securities. The latter is the difference between the projected return and the average return. Volatility is the price, which the business leader pays for gaining an expected return, which is higher than the average return. If the volatility is significant, the return is uncertain. A business leader will also invest in a security if the expected return is satisfactorily higher than the volatility (Blakey, 2006a). Some business leaders may accept to take a bigger risk to gain a higher investment return while other business leaders may prefer obtaining a lower investment return against a smaller risk (dos Santos & Brandi, 2017; Grujić, 2016). Business leaders select their investment portfolios according to their attitudes toward risks. An investor considers payment of government bonds at maturity (Fabozzi & Grant, 2001) or interest derived from depositing cash in a regulated bank (Blakey, 2006a) as risk-free returns. A business leader will invest in a security if the expected return is significantly higher than the risk-free return (Blakey, 2006a). Investors use the MPT to maximize the expected return for an accepted level of risk (Fabozzi & Grant, 2001).

An investor aims to reduce the portfolio risk without losing expected return (Fabozzi & Grant, 2001). Business leaders using the MPT assumes diversifying the securities will decrease volatility and investment risks (Arici et al., 2018; Fabozzi & Grant, 2001; Grujić, 2016; Markowitz, 1952; Markowitz, 1970). If an asset yields a poor outcome, the return from other better-performing assets, which form part of the

diversified portfolio, may compensate (Fabozzi & Grant, 2001). Business leaders should choose assets, which do not relate to each other (Fabozzi & Grant, 2001; Markowitz, 1970). For example, an investor may decide to invest in an asset in the construction sector and another asset in the automobile industry. The business leader should avoid investing in assets within mutually dependent industries, such as the real estate and construction sectors (Markowitz, 1952).

The portfolio selection process consists of two stages. In the initial phase, investors estimate future performances of assets of interest, based on observation and experience. The investor discounts the expected return to determine the present value. In the subsequent stage, investors select diversified assets, which will constitute the investment portfolio (Markowitz, 1952). The investor assigns a weight to each asset, which is the percent of the market value of the asset to the market value of the portfolio. The investor also applies a probability ratio to each asset to reflect the level of risk associated with the asset. The expected portfolio return is the weighted mean of the expected return of each security comprising the portfolio (Fabozzi & Grant, 2001).

A portfolio manager can use the MPT to recommend a portfolio of projects, which will create optimum organizational value without putting the organization at risk (dos Santos & Brandi, 2017; Kaiser et al., 2014). Researchers still applied the theory in 2013, to develop financial models (Francis & Kim, 2013). Researchers using the MPT apply the models to analyze portfolios of all sizes and types (Blakey, 2006a; Francis & Kim, 2013). Financial specialists use the models to support investment decision-making (Širůček & Křen, 2015). Researchers tried to improve the MPT and developed the post-

modern portfolio theory, the behavioral finance theory, the stochastic theory, and the fuzzy portfolio theory (Vaclavik & Jablonsky, 2012). I did not consider these theories because they address statistical assumptions of the MPT, which were not pertinent for this qualitative study. The theories mentioned above also complicate the MPT (Arici et al., 2018). Professor Sharpe developed the CAPM based on the MPT. A discussion of the CAPM is provided in the next section.

A fundamental tenet of the MPT is that potential investors will consider a portfolio of projects if they consider the expected returns as worthwhile and the uncertainty levels are within their tolerable range (Fabozzi & Grant, 2001; Markowitz, 1970). This tenet means a business leader will consider investing only in an efficient portfolio of projects (Fabozzi & Grant, 2001). A portfolio is efficient if the expected returns on the components of the portfolio and the associated risk premiums are more attractive compared to other investment opportunities (Markowitz, 1970). A risk premium is an additional return, which an investor request for assuming higher risks (Fabozzi & Grant, 2001). The other underlying principle of the MPT is that potential investors will select projects with the highest expected return (Fabozzi & Grant, 2001; Grujić, 2016; Markowitz, 1970). This principle implies business leaders will rank projects in the efficient portfolio according to their expected investment returns.

Another essential precept of the MPT is potential investors will choose projects with the lowest risk level (Fabozzi & Grant, 2001; Grujić, 2016; Markowitz, 1970). This precept means that a business leader will aim to invest in an optimal portfolio of projects. A portfolio is optimal if the combination of expected return, risk, and diversification meet

the requirements of the investor. The business leader will finally invest in a feasible portfolio of available assets, which is close to the optimal portfolio. The other tenets of the MPT include all investors expect the same return and risk for a particular asset and all investors have the same investment horizon (Fabozzi & Grant, 2001; Markowitz, 1970). This tenet means a business leader using the MPT will choose the portfolio with the highest expected return gained and lowest risk taken within a similar timeframe.

Business leaders are using project finance strategies to address funding issues in the construction industry (Gatti, 2013). Project owners apply project finance strategies by setting up a specific venture. Creditors invest in the project by sharing the venture's business risks and holding the project's assets as security (Pinto, 2017). Professor Markowitz originally developed the MPT to help business leaders select securities. Nevertheless, investors can apply the principles of the MPT to analyze investments other than securities (dos Santos & Brandi, 2017). For example, business leaders may apply the principles of the MPT for selecting projects in which they can invest. The MPT was appropriate for this study because I used the conceptual framework to understand the various components of project funding, such as investments, forecasted returns, business risks, securities, and financial models.

I explored project funding schemes through the MPT lens to identify strategies that construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. Based on the tenets of the MPT, I understood investors would fund a project if the expected investment return were higher than both a risk-free return and the associated volatility. Investors would also finance a project if the

investment risk were within their tolerable range. Project owners may attract sustainable funding for their infrastructure projects by demonstrating to potential investors that the expected returns on the projects are high and stable.

The capital asset pricing model (CAPM). An alternative theoretical framework relevant to this doctoral study was the CAPM. Professor William Sharpe pioneered the development of the CAPM in 1964 (Nawrocki, 1997). Professor Treynor, Professor Lintner, and Professor Mossin also contributed to the development of the CAPM (Perold, 2004). Professor Sharpe, born in 1934, is a famous American economist and worked as a professor at the Graduate School of Business of Stanford University, California until he retired in 1989. He is the past president of the American Finance Association and he founded William Sharpe Associates, which is an investment consulting firm (Sharpe, 2019). Professor Sharpe won the Nobel Memorial Prize in economic sciences in 1990 for his significant contribution to the development of the CAPM (Fabozzi & Grant, 2001; Sharpe, 2019).

The CAPM is based on the utility theory and the state contingent pricing theory (Stapleton, 1999). The CAPM builds on the modern portfolio theory (Fama & French, 2004). While the modern portfolio theory (MPT) focuses on the selection of portfolios, which capitalize on expected returns in line with the investor's tolerable levels of risk (Fabozzi & Grant, 2001), the CAPM is an equilibrium model, which provides a balance between investment return and risk (Nawrocki, 1997; Perold, 2004). The effect of an investment risk on the expected return is fundamental in finance (Perold, 2004). Sharpe (1964) developed the CAPM to facilitate investment decision-making. Investors can use

the CAPM to measure the value and performance of securities, portfolios (Fama & French, 2004) and fund managers (Perold, 2004). Business leaders can also use the CAPM to predict the behavior of investors (Perold, 2004). CAPM involves significantly fewer computations than MPT because of simplifying assumptions (Fabozzi & Grant, 2001).

Users of CAPM relate investments returns to risks (Sharpe, 1964). Business leaders using the CAPM are reluctant to take significant investment risks. They prefer accepting a lower return for a less risky security than expecting a higher return for a riskier asset (Stapleton, 1999). To reduce investment risks, Perold (2004) and Sharpe (1964) recommended investors to diversify their portfolio. A diversified portfolio should consist of independent securities (Perold, 2004; Sharpe, 1964). For example, investors should not buy assets both in the computer hardware and software industries because a fall in the sales of computers will generally reduce the demand for computer programs. Diversified investors are willing to pay higher share prices and accept lower returns than undiversified investors because the former face less risk per asset. Undiversified investors take higher risks for which they do not receive compensation (Perold, 2004). Users of CAPM also believe the optimum portfolio is the market portfolio because most market participants buy and sell various securities on a rational basis, leading to an equilibrium scenario (Blakey, 2006b). At the equilibrium condition, market prices of securities adjust to account for associated risk premiums (Sharpe, 1964). A risk premium is a compensation, which the business leader needs to invest in a risky asset (Fabozzi &

Grant, 2001). An investor can estimate the risk premium on an asset, based on average past returns on the asset (Perold, 2004).

The expected portfolio return is the risk-free rate combined with the risk premium and multiplied by the quantity market risk for the portfolio. A risk-free asset is one in which the return is certain, such as government obligations at maturity. The market risk is the level of risk inherent to the market conditions, such as currency fluctuations, which are beyond the control of the organization owning the asset. Diversification does not reduce the market risk (Fabozzi & Grant, 2001). Researchers developed improved versions of the CAPM, such as the arbitrage pricing theory (APT), the coherent market theory (Nawrocki, 1997), and the international capital asset pricing model (ICAPM) (Perold, 2004). For example, while the CAPM states the market index affects the expected return on an asset, the APT postulates that the expected return on an asset depends on various other factors (Fabozzi & Grant, 2001; Fama & French, 2004). The ICAPM assumes currency fluctuations affect the expected return on an asset (Perold, 2004).

The fundamental tenet of the CAPM is business leaders make their investment decision based on expected return and risk (Fabozzi & Grant, 2001). The other underlying principle of the CAPM is investors are rational and risk-averse (Fabozzi & Grant, 2001; Nawrocki, 1997). Another essential precept of the CAPM is investors make their decisions based on consistent expectations and investment time horizon (Fabozzi & Grant, 2001; Nawrocki, 1997). These tenets of the CAPM are similar to the corresponding principles of the MPT. The other important principle of the CAPM is

investors do not pay transaction and information costs (Nawrocki, 1997) and selling restrictions and taxes are not applicable (Perold, 2004). This principle means a business leader using the CAPM considers only the cost of the securities and ignores associated costs when making an investment decision. Another essential precept of the CAPM is investors can invest in risk-free assets and can borrow or lend any sum at the risk-free rate (Fabozzi & Grant, 2001). This precept implies risk-free investments are available in the market and a business leader using the CAPM can borrow or lend any amount of money at the risk-free rate (Fama & French, 2004). The other fundamental tenet of the CAPM is the market is perfectly competitive and stable with investors gaining equal and free access to all available information (Fabozzi & Grant, 2001; Nawrocki, 1997; Perold, 2004). This tenet entails a business leader using the CAPM uses a perfect information system on market securities.

I did not use the original or any variant of the CAPM as the conceptual framework because the underlying assumptions were too simplistic for this doctoral study. The assumptions of the CAPM do not reflect the economic situation in the real world (Fabozzi & Grant, 2001; Fama & French, 2004). Širůček & Křen (2015) highlighted the difficulties for business leaders to identify risk-free investments and a risk-free interest rate. Investors do not have access to a risk-free interest rate for any amount of funds borrowed or lent (Fabozzi & Grant, 2001, Fama & French, 2004). Capital markets are volatile, which implies returns are not certain (Širůček & Křen, 2015). A business leader cannot always associate higher returns with higher risks (Širůček & Křen, 2015). Investors typically do not have the same investment expectations

and time horizons on returns and risks (Nawrocki, 1997). The CAPM was also not a suitable conceptual framework for my study because unlike the MPT, the CAPM lacks application flexibility and researchers cannot adapt the theory to study components other than capital market securities (Nawrocki, 1997).

Economic and Social Importance of Investing in Infrastructure Projects

Infrastructure includes facilities such as reservoirs and dams; water as well as power plants and supply grids; telecommunication networks; landfills and sewerage treatment facilities; roads, bridges and railways; harbors and airports; and buildings including hospitals, schools, police posts, fire stations as well as housing, administrative, commercial, recreational, industrial, and military complexes. Infrastructure comprises essential amenities required to sustain the economy and support the social activities of a country, region, or organization (Lübbe, 2016; Merriam-Webster's Collegiate Dictionary, 2005). Lu et al. (2015) highlighted the need for all countries, irrespective of their development level, to invest in infrastructure projects to improve the economy. Lübbe (2016) mentioned low-income countries, particularly African nations, typically suffer from deficient infrastructure development and ensuing slow economic growth. Lu et al. and Lübbe stated both public and private project owners in developing countries should focus on upgrading the infrastructure rapidly to eradicate backlogs in infrastructure development and to ensure sustainable and long-term economic growth.

Zawawi et al. (2014) also highlighted the close relationship between infrastructure development and economic growth and mentioned the economic benefits obtained from an infrastructure surpass the capital costs associated with building the infrastructure. The

States News Service (2016), which is a government agency, emphasized the economic importance of infrastructure projects and stated the direct contribution of the construction business to the gross domestic product (GDP) of the United States was 6% in 2014 and 2015. The government agency stated the indirect contribution of the construction industry was at least 2% to 3% of the GDP of the United States. Statistics Mauritius (2018), which is a state agency, reported the construction sector in Mauritius contributed approximately 7% to the GDP in 2017. Infrastructure development also positively impacts social welfare.

Infrastructure development brings positive social change. Sillah (2018) differentiated infrastructure into economic infrastructure and social infrastructure. Economic infrastructure generates income and the users of the infrastructure pay direct fees (Sillah, 2018). For example, a power plant is an economic infrastructure because consumers pay for the electricity generated by the power plant. Social infrastructure benefits the public but does not generate income. The government pays for the construction and operation of the social infrastructure (Sillah, 2018). For example, a police station is a social infrastructure because beneficiaries of police services do not pay direct fees for the provision of the services by the government.

Lu et al. (2015) mentioned project owners need to develop, build, and operate resilient infrastructure, which are socially and environmentally sustainable and adapt to the effects of climate change. Lu et al. said project owners should also invest in the maintenance of infrastructure as well as the upgrading of deteriorating infrastructure to meet both economic and social objectives. Lübbe (2016) highlighted economic growth

relates closely to social wellbeing. Lübbe explained in an improved economy, the government has more resources to spend on reducing poverty and social inequalities. Lübbe stated social incentives in low-income countries enhance human capital development, which in turn helps to boost the economy. The implementation of infrastructure projects enhances economic growth and brings significant benefits to local communities.

Challenges in Funding Infrastructure Projects

Construction project owners lack adequate funds to implement infrastructure projects successfully. Lübbe (2016) stated governments fund most infrastructure projects from their fiscal budgets. Public authorities often lack sufficient resources from their fiscal budgets to spend on infrastructure (Zawawi et al., 2014). Lu et al. (2015) also emphasized significant gaps between public revenues and spending mean governments of low-income and middle-income countries are encountering challenges to finance infrastructure projects adequately. The deficit for financing infrastructure projects in the United States amounts to more than $1 trillion until 2020. The shortage of investments in water, energy, transportation, and port infrastructure projects in the United States will bring a loss of more than $3 trillion in the GDP (American Society of Civil Engineers, as cited in Lu et al., 2015). The Asian Development Bank (as cited in Lu et al., 2015) reported Asian countries would require an investment of $8 trillion to fund infrastructure projects until 2020.

Fox (2015) reported African countries in the sub-Saharan region need to spend $93 billion in infrastructure projects annually to reverse the negative economic growth

trend. The Organization for Economic Cooperation and Development (as cited in Lu et al., 2015) estimated the global shortage of funds to invest in infrastructure projects until 2030 amounts to $25 trillion. The International Energy Agency (as cited in Lu et al., 2015) predicted governments would need to invest $45 trillion globally until 2050 to adapt to the effects of climate change. Lübbe (2016) stated African states suffer from underdeveloped infrastructure because of the acute shortage of funds. Lübbe mentioned African governments do not have adequate resources to fund infrastructure projects and they have limited capacity to borrow money because of their excessive debts. The financial aid capacity of countries to fund infrastructure projects in Africa deteriorated after the international financial crisis in 2008 (Lübbe, 2016). The shortage of funds also affects the outcomes of infrastructure projects.

Funding issues may cause construction project failures, which may severely impact organizations sponsoring the projects and firms involved in building the infrastructure. Ramachandra and Rotimi (2015) as well as Sohi, Hertogh, Bosch-Rekveldt, and Blom (2016) stated payment delays and losses frequently occur in the construction sector. Sohi et al. (2016) identified the funding weakness of project owners and contractors as major causes of payment delays and losses. Nguyen and Chileshe (2015) reviewed eight studies, published between 2007 and 2010, on critical factors causing failures of infrastructure projects, and found 50% of the studies cited inadequate cash flows as a major cause of project failures.

Dybå and Dingsøyr (2015) stated organizations incur considerable losses as a result of failed projects. Holt (2013) mentioned many construction businesses failed and

closed down as a consequence of bankruptcy. Holt highlighted unstable cash flows and insufficient revenues as the main reasons for financial failures. Construction project owners should focus on addressing funding challenges to enhance economic growth and to avoid project failures, which may jeopardize their organizations.

Innovative and Sustainable Business Strategies to Address Infrastructure Project Funding Challenges

Leaders need to develop the infrastructure to support long-term economic growth (Lu et al., 2015) and bring positive social change (Lübbe, 2016). Both public and private construction project owners lack adequate conventional financial resources to invest in the implementation of infrastructure projects (Javed & Fida, 2015). Construction project owners may use project financial management tools to identify potential project funding sources and strategies (PMI, 2016). Construction project owners may develop and apply innovative (Huff, 2016) and sustainable (Mycoskie, 2016) strategies, based on project finance (Garcia-Bernabeu, Mayor-Vitoria, & Mas-Verdu, 2015; Gatti, 2013; Pinto, 2017) and Islamic finance (Ahmed, 2015; Shaikh, 2017; Zawawi et al., 2014) to secure funding for implementing infrastructure projects successfully.

Project financial management. Project financial management (PFM) is a project funding appraisal instrument based on the principles of project management. The Project Management Institute [PMI] (2016) explained project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. The PMI stated an organization could derive significant benefits and value from the implementation of projects. Organizations using project management processes

implement projects successfully (PMI, 2016). The PMI mentioned the competent management of financial resources is an essential project requirement. Project funding issues influence critical decision-making processes in the construction industry (PMI, 2016). Construction project owners should understand the dynamics of project funding to make the right decisions.

Construction project owners should use PFM processes to identify, assess, and select the best project funding strategy. The PMI (2016) stated PFM is a discipline of project management, which outlines the method to fund a project. PFM involves the processes of acquiring and managing financial resources for the project to meet the project objectives and achieve the organizational goals (PMI, 2016). The PMI (2016) mentioned cost management concerns managing daily project costs while PFM relates to identifying, securing, and administrating the funds as well as managing the resulting cash flows. Construction project managers should be conversant with PFM processes to enable them to understand funding issues in construction projects and adopt optimum financial solutions for the project (PMI, 2016). As part of the PFM processes, construction project owners and contractors should ascertain the availability of adequate financial resources to conclude the project.

Construction project owners should demonstrate to contractors they have adequate financial resources to fund a project and contractors should provide evidence to project owners they have the financial capacity to execute the infrastructure project. Ramachandra and Rotimi (2015) proposed project owners and contractors provide financial securities before starting the construction works, and suggested project owners

verify the financial status of the contractors and vice-versa prior to the commencement of the works. Holt (2013) recommended project owners and contractors monitor their cash flows efficiently to ensure they have sufficient funds at all times during the implementation of the project. Holt also suggested contractors submit their payment claims on time and project owners pay without delay. Construction project owners may use PFM processes to identify potential sources of project funding and assess the various types of project funding strategies. The construction project owners may then select the most suitable funding strategy, which will help them meet the project objectives and attain the organizational goals.

Innovative and sustainable business strategies. Business leaders may develop innovative business strategies to conclude infrastructure projects successfully. The PMI (2017) stated an organizational strategy comprises the objectives and policies providing a direction to the organization. A business strategy consists of a plan, process, and other relevant actions an organization devises and implements in line with the organizational strategy. Innovation is the transformation of a new idea into a product, process, or business model to achieve the organizational goals. An innovative business strategy is one, which introduces an exclusive business model to attain the organizational goals (Dyer, Godfrey, Jensen, & Bryce, 2016). A project is successful if the project team attains the project objectives in alignment with the organizational goals (Berssaneti & Carvalho, 2015; Khan & Rasheed, 2015). Business leaders may achieve their organizational goal of concluding an infrastructure project successfully by adopting an innovative approach.

Construction project owners may bring significant benefits to their organizations by developing and implementing innovative business strategies. Styles and Goddard (2014) stated with new economic realities, such as the globalization of markets, increase in competition, and more demanding clients and investors, organizational leaders need to devise and implement innovative business strategies. Corporate leaders should develop and implement innovative business strategies to address challenges successfully (Spiegel, 2016). Business leaders should also develop an innovative strategy to gain a significant competitive advantage within their industry, market, or line of business (Dyer et al., 2016). Floricel, Michela, and Piperca (2016) suggested business leaders innovate by exploring new opportunities to generate economic benefits. A business leader may implement an innovative strategy by using different resources and capabilities to offer a unique value to customers (Styles & Goddard, 2014).

Böhle, Heidling, and Schoper (2016) as well as Johansen, Eik-Andresen, Landmark, Ekambaram, and Rolstadås (2016) suggested business leaders adopt an innovative approach to address project-related issues and create value. In an ever-changing global business environment, project constraints evolve and project managers should devise and implement innovative strategies to provide sustainable project solutions and help the organization in achieving its goals (Huff, 2016; Korhonen, Laine, Lyly-Yrjänäinen, & Suomala, 2016; Mahmoud-Jouini, Midler, & Silberzahn, 2016). Javed and Fida (2015) stated construction project owners in developing countries frequently lack sufficient conventional funds, required to build and maintain quality and efficient infrastructure. To address the abovementioned funding challenge, Javed and

Fida stated public and private business leaders should consider innovative project funding strategies. Johansen et al. cited the construction of hospitals, schools, and highways as examples of infrastructure projects, which may generate benefits to the society if completed within budget and before schedule by adopting an innovative technique. Project owners should also explore a sustainable business strategy to secure funds.

Financial resources are scarce and business leaders compete for project funding. Styles and Goddard (2014) mentioned organizational leaders need to devise business strategies based on sustainability to stay ahead of the competition. Sustainable strategies, as applicable to project funding, refer to finance schemes complying with environmental, social, and ethical principles as well as meeting the conventional criteria of profitability, liquidity, and security. While conventional fund investors focus on maximizing profits, sustainable fund investors value projects, which are ethical, socially responsible, and eco-friendly (Wins & Zwergel, 2016). Business leaders should aspire to generate positive social change in all their undertakings (Mycoskie, 2016).

Stephan, Patterson, Kelly, and Mair (2016) stated positive social change is the transformational process of improving the well-being of society. Business leaders bring positive social change when they create shared value. The concept of shared value refers to the concurrent generation of economic and societal benefits. A project creates societal value when it meets both social and environmental needs (Driver, 2012). Project owners may bring positive social change by allocating project resources to social welfare (Santhosh & Baral, 2015). For example, the project owners may construct a community health center to care for residents of a village, whereby the project owners intend to build

a hotel resort. Project owners may gain a competitive advantage by adopting a sustainable approach.

Project owners may improve the project success rate and benefit from alternative funding opportunities by using sustainable strategies. Oppong, Chan, and Dansoh (2017) stated efficient stakeholder management reduces project uncertainty and helps in securing project funding. Project owners may enhance the acceptance of their project by stakeholders and improve the project success rate by marketing their sustainable strategies (Szabó, 2016). Project owners may focus on profit-making or cost-saving at the expense of the social, environmental, and economic sustainability of the infrastructure and the quality of services (Mycoskie, 2016). Sustainable fund investors may request project owners to demonstrate their proposed infrastructure projects improve the quality of life of citizens as a mandatory condition to disburse funds (Lu et al., 2015). Business leaders may attract project financing from sustainable fund investors by proposing socially-responsible projects (Wins & Zwergel, 2016).

Lu et al. (2015) proposed an innovative and sustainable framework, which they labeled *social impact project finance* (SIPF), for funding infrastructure projects, and explained, in contrast to conventional finance, the government commits, in the SIPF framework, to pay performance-based bonuses for sustainable infrastructure and improved services. Lu et al. described a toll road project as an example. At the operation stage, the highway agency requests feedbacks from road users. If the latter are satisfied with the quality of the infrastructure and the services offered, the highway agency pays a positive social impact bonus to the private operator of the road infrastructure. Such

incentive may motivate a private firm to adopt a sustainable approach to better construct and manage public infrastructure assets (Lu et al., 2015). Construction project owners may develop innovative and sustainable funding strategies to attain the organizational goal of concluding infrastructure projects successfully.

Project finance. Project finance is an innovative project funding strategy based on equity and debts. Olsson (2018) stated project owners take delivery of the completed project. Project owners receive the benefits arising from the implementation of the project (Zwikael, 2019). Project sponsors identify projects, promote the implementation of the projects, and are responsible for securing funds required to execute the projects (PMI, 2017). Project sponsors either are employed by the project owners or propose projects to project owners for profits (Olsson, 2018; Zwikael, 2019). Project sponsors may seek funds for a project through corporate finance (Gatti, 2013). They may use conventional financing methods such as bank loans, lines of credit, and public debt offerings (PMI, 2016). Project creditors fund projects by lending money to the project sponsors. Project creditors decide whether to finance the project after analyzing the financial standing, profitability, and litigation history of the firms sponsoring the project. The project sponsors use corporate assets and cash flows to guarantee the loans given by the project creditors. In case the project fails, the project sponsors may use the remaining corporate and project assets as well as cash flows to repay the loans and associated charges to the project creditors (Gatti, 2013).

Project sponsors should also consider alternative financing schemes (Gatti, 2013; PMI, 2016). Lu et al. (2015) stated the private sector has the potential to invest in

infrastructure projects, and explained private enterprises would be interested in injecting funds into public infrastructure projects because of predictable and stable cash flows over a long time. Lu et al. and Lübbe (2016) said project sponsors could attract private investors to participate in the funding of public infrastructure projects through a project finance initiative. Lübbe proposed project sponsors set up a project finance structure to obtain funding exclusively for the implementation of infrastructure projects. Lübbe explained project finance is equivalent to private investment in public infrastructure and fosters economic growth. Construction project sponsors may consider project finance as a project funding strategy.

Project finance is a limited long-term recourse project funding structure. Pinto (2017) stated project finance is the process of investing in a specific economic unit set up by the project sponsors, in which creditors invest in the project by sharing the venture's business risks and holding the project's assets as security. Ahmed (2015) described project finance as a loan structure, which depends on the project's cash flow for repayment and the project's assets as security. Garcia-Bernabeu et al. (2015) declared project finance is a debt structure, whereby promoters set up a company, known as a *special purpose vehicle* (SPV), for a limited period to implement a specific project. Gatti (2013) outlined project finance is the structured financing of the SPV, also referred to as the project company. The project sponsors set up the SPV using equity and debts. The project creditors consider the project cash flows as the primary source for refunding the debts. The project sponsors provide the project assets as security to the project creditors (Gatti, 2013). The PMI (2016) stated project finance is a structured investment scheme to

fund construction projects by means of equity and debts. The mechanisms of project finance and corporate finance are fundamentally different.

A project finance scheme involves complex financial and contractual arrangements. Gatti (2013) mentioned the project sponsors in a project finance structure may include government organizations, private promoters, contractors, and fund management companies. The project sponsors set up an SPV to manage the equity, debts, cash flows, and other project resources competently. The SPV is financially and legally independent from the project sponsors (Gatti, 2013). Garcia-Bernabeu et al. (2015) and Lasa et al. (2016) stated the project sponsors in a project finance scheme become the shareholders of the SPV and provides the equity. The project sponsors must contribute adequate equity to demonstrate their commitment to the successful implementation of the project. The project creditors in a project finance scheme are typically financial institutions, such as banks (Gatti, 2013).

Garcia-Bernabeu et al. (2015) and Lasa et al. (2016) mentioned the project creditors in a project finance structure constitute the debt holders of the SPV and provides the debts. The managers of the SPV use the equity and debts to gradually pay for the construction of the project assets and use a combination of equity, debts, and cash flows to remunerate the operator of the completed project assets. The executives of the SPV use the project cash flows to service the debts through capital reimbursements and interest payments. The project does not generate cash flows during the construction phase. The managers of the SPV make contractual arrangements with the debt holders to start paying back the debts when they obtain revenues during the operation stage in the form of fares

paid by users of the project assets or unitary payments made by the project owner. The executives of the SPV use the residual funds to pay dividends to the shareholders of the SPV (Gatti, 2013).

The prospective debt holders perform various technical, financial, and risk investigations to determine the viability of the project. The potential debt holders verify the cash flows generated by the project are adequate, stable, and foreseeable. The prospective debt holders then carry out a financial analysis to examine whether the estimated cash flows are adequate to repay the debts. The debt holders either have no recourse or limited recourse to the project sponsors in case the project fails. If the cash flows are not sufficient, the potential debt holders may request the shareholders of the SPV to increase equity to reduce the level of debts. The prospective debt holders also ensure the value of the project assets is adequate to guarantee the debts. If the value of the project assets is not sufficient, the potential debt holders may request the shareholders of the SPV to provide part of their corporate assets as additional security (Gatti, 2013).

One critical component of project finance is the management of project risks. The competent identification, allocation, monitoring, and control of risks help to reduce the volatility of project cash flows used to repay the debt holders (Gatti, 2013). Debt holders and insurers may also charge lower costs to the project sponsors if risk management in the project finance scheme is efficient (Garcia-Bernabeu et al., 2015; Rezaee, 2016). The managers of the SPV verify the forecasted cash flows generated by the project are adequate to remunerate the shareholders of the SPV at a rate consistent with the level of risks taken (Lasa et al., 2016).

The prospective debt holders perform a risk analysis to verify the executives of the SPV allocate risks fairly among all shareholders of the SPV and mitigate risks to the debt holders through commercial and legal agreements (Garcia-Bernabeu et al., 2015; Rezaee, 2016). The potential debt holders also ensure the managers of the SPV assign risks to the party, which has the best ability to mitigate and manage the risks (Gatti, 2013; Lübbe 2016). Project sponsors may provide financial guarantees to reduce credit risks. The project owner or a financial institution may stand as guarantor. The guarantee is an assurance from the guarantor the latter will pay the debt holder if the project sponsor defaults. Financial guarantees help project sponsors to borrow more money from the debt holders at lower rates (Kabir & Soumaré, 2015). Project sponsors should explore the prospects offered by project finance.

Project finance presents two major advantages to project sponsors in comparison to corporate finance. Project finance increases the availability of financial resources to fund the construction of the infrastructure (Lübbe, 2016). Project finance schemes attract organizations to fund infrastructure projects because the investment opportunities are stable, predictable, and profitable. Potential investors in a project finance scheme, such as pension funds, mutual funds, and insurance corporations had sufficient assets in 2010 to fund more than $70 trillion worth of infrastructure projects (Lu et al., 2015). Low levels of equity by the shareholders of the SPV and high levels of debt by the debt holders characterize project finance. Project sponsors do not need to allocate considerable financial resources to fund the project because of the relatively low equity to debts ratio. Project finance relieves pressure on public or corporate finances. Even if an organization

has sufficient resources to fund an infrastructure venture, project finance allows the organization to use the available funds to implement another infrastructure project for which it is more difficult to secure credit (Lübbe, 2016). For example, a government may use project finance to fund the construction of a power plant. The managers of the SPV may use monthly payments from consumers of electricity to pay back the debts to the debt holders. The government may use the fiscal space to fund the construction of fire stations, whereby the concept of *users pay* is not applicable.

Project finance reduces the risks associated with the implementation of the infrastructure project for the project sponsors. In a project finance scheme, the project sponsors set up the SPV with contractual arrangements separate from their respective firms (Gatti, 2013; Lübbe, 2016). The assets of the SPV, instead of the assets of the shareholders of the SPV, stand as guarantees for the debts (Garcia-Bernabeu et al., 2015). The debt holders may either have no recourse or limited recourse to the shareholders of the SPV (Gatti, 2013). If a project fails, the shareholders of the SPV will not endure severe collateral damage (Garcia-Bernabeu et al., 2015; Magni, 2015).

Project finance also promotes competent investment management, effective governance, and efficient management of project risks. Pinto (2017) stated project finance creates value by reducing the funding costs, providing financial flexibility to sponsors, and improving risk management. Other scholars have different views. For example, Martín, Calvo, Hermoso, and de Oña (2014) said infrastructure costs using private finance are higher than using public finance because of the profit-making objective of private investors. Gatti (2013) mentioned project finance may cost higher

than corporate finance because of the additional legal, technical, and insurance charges associated with structuring and organizing the SPV. Garcia-Bernabeu et al. (2015) stated project finance is more expensive than conventional finance because of its non-recourse nature. The project creditors in a project finance scheme will claim higher charges compared to a corporate finance structure because the debt holders assume additional risks (Gatti, 2013). Project finance deals are excellent investment opportunities.

The project finance model is gaining popularity. Business leaders used project finance to fund large-scale projects in various countries over the last 40 years (Garcia-Bernabeu et al., 2015). Lübbe (2016) highlighted the surge in global project finance from $12.5 billion in 1991 to $280 billion in 2013. Lübbe reported project finance transactions amounted to $209 billion in Europe, $207 billion in America, and $189 billion in Asia and the Pacific region over the period 2011 to 2013. Lübbe highlighted Africa and the Middle East gained the least from project finance transactions, with a volume of $111 billion worth of transactions between 2011 and 2013. Lübbe further stated the three wealthiest countries in Africa by GDP, namely Egypt, Nigeria, and South Africa, benefitted more than 60% share of project finance transactions in Africa while project finance deals in low-income African nations, such as Ethiopia, amount to almost 0%.

Lubbe (2016) identified poor governance as a major cause of the deficient project finance contracts in sub-Saharan Africa. Lübbe declared project finance may help to eliminate infrastructure backlogs in Africa. Lübbe supported his claim by citing infrastructural developments in low-income African nations, which were made possible with project finance, led to rapid economic growth, which in turn helped to alleviate

poverty and reduce inequalities. Project finance does not require well developed financial markets and is suitable for African countries (Lübbe, 2016).

African governments will attract private project sponsors and project debt holders to finance large scale infrastructure projects by adopting conducive policies for project finance (Lübbe, 2016). For example, African administrations may establish and enforce strong legal and regulatory frameworks to protect private capital and promote foreign investments, which are essential in concluding project finance deals successfully. The African governments may set up new legislation or amend existing laws to facilitate the establishment of SPVs. The African administrations may also change their procurement policies to allow the consideration of unsolicited bids from project sponsors (Lübbe, 2016). Construction project owners may use project finance as an innovative strategy to fund infrastructure projects.

Islamic finance. Islamic finance is a sustainable project funding strategy based on Islamic principles. Khediri et al. (2015), Rudnyckyj (2014) as well as Salman and Nawaz (2018) stated Islamic finance refers to the management of funds in compliance with the fiqh muamalat. Although the principles of Islamic finance originate from the Koran more than 1400 years ago, financial specialists in Muslim countries started to develop Islamic finance schemes in the early 1960s, with the opening of the first Islamic bank, Mit Gharm Savings Bank, in Egypt in 1963 (Lakis & Baltušytė, 2017; Salman & Nawaz, 2018). Other important events in the history of Islamic finance include the operation of the Pilgrim Saving Corporation in Malaysia in 1963, the establishment of the Islamic Development Bank in Saudi Arabia in 1975, the opening of the Islamic Insurance

Company in Sudan in 1979, the launching of the first Islamic investment fund in the United States in 1986, the operation of the Islamic Stock Exchange Market in Malaysia in 1990, the setting up of the Accounting and Auditing Organization for Islamic Financial Institutions (to establish financial standards for good practice) in Bahrain in 1991, the opening of the Citi Islamic Investment Bank in Bahrain in 1996, the introduction of the Dow Jones Islamic Market Index in Bahrain in 1999, the establishment of the Islamic Financial Services Board (to promote and improve Islamic financial services) in Malaysia in 2002, and the opening of the Islamic Bank of Britain in the United Kingdom in 2004 (Lakis & Baltušytė, 2017). Islamic finance encompasses the Islamic banking system, Islamic capital markets, and Islamic insurance schemes (Rudnyckyj, 2014). Islamic finance changes the business approach.

Islamic finance advances business ethics. Islamic finance is based on the principles of social justice as well as fairness, practicality, honesty, and transparency in business transactions (Duncan et al., 2004; Salman & Nawaz, 2018). The objective of Islamic finance is establishing a system of capitalism, which does not contravene Islamic injunctions concerning fiscal practice. Islamic finance promotes entrepreneurship and fair trade and prohibits unethical transactions (Rudnyckyj, 2014). The main differences between Islamic finance and conventional finance are the prohibition against riba in Islam, avoidance of gharar in Islam, refraining from funding ventures considered *haram* (forbidden actions, such as consuming pork and alcohol etc.) in Islam, injunction against maysir in Islam, and promoting business based on the sharing of risks in Islam (Kabir &

Soumaré, 2015; Khediri, et al., 2015; Lakis & Baltušytė, 2017; Rudnyckyj, 2014; Salman & Nawaz, 2018).

Islam forbids making money from money, supports ethical trade using tangible assets, encourages fair sharing of risks, and inspires hard work to uphold economic fairness (Kabir & Soumaré, 2015; Lakis & Baltušytė, 2017). Islam considers taking or paying riba as immoral because interest allows rich people to exploit less fortunate people and interest permits capitalists to make profits on moneylending without taking any risk in the borrower's undertaking. Islam regards gharar and maysir as unfair because the outcome of the deal is not known at the time of concluding the transaction and only a few participants in the deal gain returns at the expense of other participants (Lakis & Baltušytė, 2017).

Islamic finance also supports non-profitable investments to reduce social exclusion and improve social well-being, such as the construction of hospitals, schools, houses, etc. and donations to emergency aid organizations, charitable trusts, etc. (Khediri et al., 2015; Rudnyckyj, 2014; Salman & Nawaz, 2018). The sharia also imposes a minimum tax of 2.5% (known as *zakat* in Arabic) on profits made out of Islamic financial transactions. The taxpayers give the zakat to aid organizations to help needy people in compliance with the sharia. Islam imposes zakat to redistribute wealth by taking money from the rich and giving it to the poor. Zakat reduces social exclusion and promotes economic development (Lakis & Baltušytė, 2017). Islamic finance prohibits investments in activities contrary to Islamic ethics (such as undertakings involving arms sales, terrorism, human and drug trafficking, cruelty to animals, oppression, prostitution,

robbery, corruption, fraud, immoral entertainment, tobacco trade etc.) (Khediri et al., 2015; Rudnyckyj, 2014; Salman & Nawaz, 2018). Many economists portray Islamic finance ventures as socially responsible investments (Rudnyckyj, 2014). Islamic financial institutions operate differently from conventional financial institutions.

Islamic bankers use the principle of profits and losses as well as the sharing of risks to develop financial products. Lakis and Baltušytė (2017) stated in an Islamic savings bank account, clients deposit their capital with an Islamic banker. The latter invests the money deposited by the clients. If the investment generates profit, the Islamic banker shares the profit with the clients according to a predetermined ratio. If the venture makes a loss, only the Islamic banker covers the loss. In an Islamic investment account, the depositor receives a significantly higher share of profits if the investment is successful. In case the venture fails, the Islamic banker shares the loss with the depositors (Lakis & Baltušytė, 2017).

An Islamic banker may apply various financial instruments. An Islamic banker may use the mudharaba financial instrument, in which depositors place their capital with the Islamic banker and the latter invests the money to build a sharia-compliant fund. The Islamic banker then provides funds to a project sponsor for financing a project and both parties agree on the duration of the project. The project sponsor is responsible for managing and executing the project. The project sponsor shares the profits gained from using the funds with the Islamic banker in predetermined proportions. The Islamic banker shares its part of the profits with the depositors in predetermined proportions. The Islamic banker and the depositors share all financial losses and the project sponsors assume all

costs associated with managing the funds. The Islamic banker acts as an intermediary between the depositors and the borrowers of the capital (Duncan et al., 2004; Lakis & Baltušytė, 2017; Rudnyckyj, 2014; Salman & Nawaz, 2018). Mudharaba is suitable for funding short-term projects (Lakis & Baltušytė, 2017).

An Islamic banker may use the musharakah financial instrument, in which the Islamic banker and a project sponsor invest capital in partnership in a project. In return, the project sponsor shares annual profits or losses with the Islamic banker as well as the difference between the initial investment and the value of shares sold on the capital market according to a predetermined ratio (Kabir & Soumaré, 2015; Lakis & Baltušytė, 2017; Lasa et al., 2016; Salman & Nawaz, 2018). In a permanent musharakah, both parties remain the shareholders of the asset. In a diminishing musharakah, the Islamic banker gradually reduces its participation in the venture and sells all its shares to the project sponsor within an agreed timeline (Lakis & Baltušytė, 2017).

An Islamic banker may also enter a murabahah agreement with a client, in which the Islamic banker purchases an asset requested by the client from a third party because the client cannot afford to buy the asset. The Islamic banker then sells the asset to the client for profit (Duncan et al., 2004; Kabir & Soumaré, 2015; Lakis & Baltušytė, 2017; Salman & Nawaz, 2018). The client pays for the asset upon reception of the asset either in a single payment or in installments. The Islamic banker bears all responsibility for the asset from the time of purchase from the supplier until handing over to the client. The Islamic banker and the client agree on the profit margin at the time of signing the contract, irrespective of the term of the loan (Lakis & Baltušytė, 2017).

Islamic bankers may use two murabahah contracts, known as *bai salam* and *bai istisnah* in Arabic. In the bai salam contract, the Islamic banker purchases any future asset from a seller. Five important conditions to the bai salam transaction apply to ensure compliance with the sharia because Islam does not allow payment for an item which does not exist (prohibition against gharar). Both the purchaser and seller must agree on the time of delivery of the future asset. The purchaser specifies the characteristics of the future asset, such as weight in case of products, appearance, etc. The buyer must pay the future asset in a single payment to confirm the order. Neither the purchaser nor the seller can withdraw from the transaction once the purchaser makes the payment. The purchaser must take immediate delivery of the asset if the seller delivers the specified asset at the agreed date. The Islamic banker may enter a parallel bai salam contract, whereby it takes the commitment to sell the future asset (Lakis & Baltušytė, 2017).

In the bai istisnah contract, the client of the Islamic banker specifies the characteristics of the future asset. The Islamic banker purchases the specific future asset from a seller. The Islamic banker enters into an agreement with the seller and specifies the characteristics of the future asset, as requested by its client. The Islamic banker and the seller may or may not agree on the time of delivery of the future asset beforehand. The Islamic banker may pay the seller immediately upon confirmation of the order or in predetermined installments. The Islamic banker may cancel the order if the seller has not yet started the production or construction of the future asset. The Islamic banker takes delivery of the asset and charges the client the amount it paid to the seller plus a profit agreed in advance with the client. Islamic bankers may use the bai salam contract to buy

any asset and the bai istisnah contract to purchase a specific asset for a particular client (Lakis & Baltušytė, 2017).

Islamic bankers may use the ijarah financial instrument, in which the Islamic banker purchases an asset requested by a client from a third party. The Islamic banker then leases the asset to the client for profit over a specific period in fixed installments. The client acquires the asset gradually or acquires the asset at the payment of the last installment (Duncan et al., 2004; Kabir & Soumaré, 2015; Lakis & Baltušytė, 2017; Lasa, Ahmad, & Takim, 2016; Salman & Nawaz, 2018). The Islamic banker bears the responsibility of the asset in case of theft or breakdown unless the client is negligent or deliberately damages the asset (Lakis & Baltušytė, 2017).

An Islamic investment firm may also use sukuks to raise capital. The sukuks are listed and rated on the capital market. The Islamic investment firm acquires assets and sells the assets in the form of sukuks on the capital market. The sukuk holders own the assets until they sell their sukuks to another party or redeem the sukuks at maturity (Duncan et al., 2004; Kabir & Soumaré, 2015). The attitudes of Islamic and conventional financial institutions towards their customers differ.

Islamic bankers care for their customers. Lakis and Baltušytė (2017) mentioned Islamic bankers grant loans based on the principle of profits and losses as well as the sharing of risks. Conventional bankers grant loans if the borrower provides a guarantee (Lakis & Baltušytė, 2017). Islamic finance allows the use of a guarantee against the borrower only in case a project fails because of fraud, gross negligence, or misconduct of the borrower. Based on the principle of fairness, Islamic finance does not allow the lender

to enforce collateral in case of genuine reasons for project failure, such as the occurrence of natural hazards, changes in the law, increase in prices of materials, etc. (Kabir & Soumaré, 2015). If the Islamic banker does not request a guarantee from the borrower and the project fails because of fraud, gross negligence, or misconduct of the borrower, the Islamic banker may bring the case to the court and ask the borrower to provide compensation for the losses incurred (Lakis & Baltušytė, 2017).

Islamic financiers consider their clients as business partners. The lender finances the project while the client implements the project. Conventional financiers consider their customers as potential sources of profit. Islamic financiers consider the project when providing credit. Islamic finance offers opportunities to sponsors who proposes interesting projects even they do not have past credit records. Conventional financiers assess the reliability and creditworthiness of the project sponsor. Islamic financiers assess the viability of a project carefully and collaborate with the borrower to maximize the project success rate. Conventional financiers may fund a project even if the risk of failure is high because they can recover full payment of the loan through the collateral provided by the borrower. In case a funded project fails, the Islamic financier assumes the losses while the conventional financier confiscates the guarantee, sells it, and recovers the outstanding capital, the unpaid interests, and charges for the late reimbursements of the loan installments as well as for recovering these sums. Islamic bankers may achieve fewer profits than conventional bankers in the short term but Islamic bankers are more stable and resilient to financial crises (Lakis & Baltušytė, 2017). Islamic finance offers valuable opportunities.

Islamic finance is a widely recognized funding system. Islamic finance is expanding fast all over the world at an annual growth rate of 15%, predominantly in Muslim countries, such as Malaysia, Indonesia, Pakistan, and Middle East states (Khediri et al., 2015, Salman & Nawaz, 2018). Islamic financial transactions reached approximately $2 trillion in 2014 (Hoggarth, 2016). More than 300 Islamic financial institutions operate in almost 75 countries (Khediri et al., 2015, Salman & Nawaz, 2018). Iran, Pakistan, and Sudan run only Islamic financial organizations. Other Muslim countries, such as Saudi Arabia, Turkey, and the United Arab Emirates (UAE) operate both Islamic and conventional financial institutions (Khediri, 2018). Islamic finance is also popular in non-Muslim countries because the interest-free concept of Islamic finance attracts non-Muslim customers (Salman & Nawaz, 2018; Zawawi et al., 2014). Western governments and executives of large banks in Europe and the United States are also exploring Islamic finance systems following the global financial crisis in 2008, which many economists attributed to high interest rates (Salman & Nawaz, 2018; Zawawi et al., 2014). Islamic bankers performed well even during the global financial crisis in contrast to conventional bankers (Khediri et al., 2015; Lakis & Baltušytė, 2017). The remarkable performance of the Islamic financial system during the severe global financial crisis in 2008 demonstrates its resilience (Lakis & Baltušytė, 2017).

Leaders of several conventional multinational banks, such as Citi-group headquartered in New York and HSBC Holdings plc based in London, recognized the importance of the Islamic finance market and they offer Islamic finance products in both Muslim and non-Muslim countries (Hoggarth 2016; Salman & Nawaz, 2018). The

Goldman Sachs Group, a leading global investment banking, securities, and investment management firm headquartered in New York, released sukuks in 2012 (Hoggarthm 2016). Khediri et al. (2015) studied 61 Islamic and conventional banks operating in Bahrain, Kuwait, Saudi Arabia, Qatar, and the UAE between 2003 and 2010. Khediri et al. found Islamic financial institutions have higher liquidity and lower credit risk than conventional banks. There are challenges associated with developing Islamic financial products.

Promoters of Islamic finance should address fundamental issues. Rudnyckyj (2014) mentioned the challenges associated with Islamic finance include transforming religious scholars into financial experts and educating citizens on the Islamic financial system. There is a lack of consensus between some Islamic scholars and creditors regarding business practices complying to the sharia. Either the scholars do not have adequate knowledge of modern financial systems or the creditors do not have a good understanding of Islamic jurisprudence (known as *usul al-fiqh* in Arabic) and fiqh muamalat. To address this issue, promoters of Islamic finance products should have a comprehensive knowledge of the usul al-fiqh as well as the fiqh muamalat and thoroughly understand modern financial structures. Financial experts should avoid adapting the conventional financial system to comply with the fiqh muamalat. Otherwise, the resulting Islamic finance product would merely imitate a conventional financial system. Financial professionals should elaborate on Islamic finance products from scratch together with the active participation of Islamic scholars. Financial specialists would then develop innovative Islamic finance products (Rudnyckyj, 2014).

To address the issue of lack of unanimity on religious interpretations, the central bank of Malaysia established the National Sharia Advisory Council (NSAC) in 1997. The NSAC is the sole authority in the country to advise financial institutions on the compatibility of financial practices with the sharia. The NSAC comprises famous Islamic scholars, renowned jurists, and leading financial experts. The NSAC resolves conflicts on the interpretation of the fiqh muamalat and the rulings are binding (Rudnyckyj, 2014). A sharia council may also supervise the activities of Islamic financial institutions. The council may update regulations to improve financial services and enhance compliance with the fiqh muamalat. The council may also arbitrate legal challenges and impose penalties for non-compliance with the applicable rules governing Islamic finance (Lakis & Baltušytė, 2017).

Authorities should regulate the activities of Islamic financial institutions to ensure compliance with both financial standards applicable in the country and the fiqh muamalat. The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), based in Bahrain, adapts prominent western accounting standards, such as the International Financial Reporting Standards (IFRS) and the Trust Fund Accounting System, to help Islamic financial institutions comply with international financial standards while avoiding contradiction with the fiqh muamalat. The AAOIFI also develops new accounting standards as well as auditing, governance, and ethics standards, to ensure conformity to both international financial standards and the fiqh muamalat. The Islamic Financial Services Board (IFSB), based in Malaysia, also issues international financial standards to promote and improve Islamic financial services. The authority

regulating Islamic financial services in a country should specify the financial standards, which the Islamic financial institution should use (Lakis & Baltušytė, 2017).

Many Muslims separate their financial practices from their religious beliefs and use conventional financing systems based on the payment of interest. Non-Muslims may have the preconception Islamic finance is not compatible with their religious or secular values. Advocates of Islamic finance products should inform citizens on the concept of Islamic finance as a universal and trustworthy financial system, which is consistent with modern ethical business practices. To reconcile the desire of citizens to reap the benefits of Islamic finance schemes and the concerns of citizens doubtful of Islamic finance systems, financial institutions may offer both conventional and Islamic finance products under the same roof. The dual system would also avoid disruptions in economies based on conventional financial structures and would provide an opportunity for financial specialists to demonstrate the competitiveness of Islamic finance products. Customers, who initially preferred the conventional financial products, may switch to using Islamic financial products after realizing the benefits associated with Islamic finance (Rudnyckyj, 2014). Construction project owners may explore Islamic finance as a sustainable approach to secure funds.

Islamic Project Finance as an Innovative and Sustainable Strategy for Funding Infrastructure Projects

Islamic project finance is the result of an efficient combination of project finance and Islamic finance components. Zawawi et al. (2014) stated governments are seeking partnerships with the private sector, commonly known as private finance initiatives

(PFIs). Governments promote PFIs to reduce public spending. The partners in a PFI comprise a public authority, project sponsors, debt holders, and a special purpose vehicle (SPV) set up by the project sponsors for managing the equity, debts, cash flows, and other project resources. The public authority is the project owner and signs a contract agreement with the SPV for the provision of a public asset against unitary payments. The project sponsors provide equity to the SPV in return of dividends. The project sponsors transfer their financial and legal obligations to the SPV. The debt holders provide credit to the SPV and the latter service the credit by reimbursing capital and paying interests (Gatti, 2013; Lasa et al., 2016).

In contrast to conventional procurement, governments require the SPV to design, build, maintain, and operate the public asset in a long-term concession spanning between 25 to 35 years (Gatti, 2013; Lasa et al., 2016). The SPV uses the equity and debts to pay consultants and contractors for the construction of the public asset. The SPV also uses the equity, debts, and cash flows to pay contractors to operate and maintain the public asset. The SPV uses cash flows to service the debts. The SPV uses the surplus of funds to pay dividends to the project sponsors. The SPV needs considerable funds to perform its contractual obligations. The SPV should secure cost-effective funds to maintain its participation in the concession (Gatti, 2013; Lasa et al., 2016).

Zawawi et al. (2014) declared PFIs were not successful because financial specialists used a ratio of 10% equity to 90% debts as the basis, whereby the proportion of debt was too high. Zawawi et al. stated the United Kingdom treasury reformed the PFI into a new model called the project finance 2 (PF2) and adjusted the equity to 25%, and

pointed out the fraction of debts at 75% was still too high. Debt proportionally affects the cost of project finance. Governments will be reluctant to enter into a PFI agreement if the cost of project finance is significantly higher than the cost of public funding (Lasa et al., 2016). Project sponsors may fail to justify the choice of project finance over conventional finance based on value for money unless they find alternatives for cheaper financing sources (Lasa et al., 2016). A wrong financing decision, based on increasing equity to reduce debts, may compromise the survival of the SPV (Danso & Adomako, 2014). Zawawi et al. (2014) said the main problem associated with the high costs of the debts was the high-interest rate. The SPV should identify a strategy to lower the interest rate of the debts.

Project creditors may provide debts with zero interest. Zawawi et al. (2014) presented an Islamic project finance model as a solution to the problem, and clarified Islamic project finance is interest-free but is still compatible with the PF2. Zawawi et al. explained Islamic project finance is based on the partnership between the project owner and the project creditor to finance a project based on the sharing of profits and losses according to a mutually agreed formula. Zawawi et al. stated the financial transactions in the Islamic project finance model must be free from interests and the investments must lead to social welfare. Zawawi et al. inferred Islamic project finance is appropriate for the funding of infrastructure projects because of the social benefits derived by users of the infrastructure. Duncan et al. (2004) stated Islamic finance is compatible with project finance because the project sponsors in an Islamic finance scheme guarantee their transactions by assets.

Zawawi et al. (2014) mentioned Islamic project finance is becoming increasingly popular because of the concepts of zero interest rate, which considerably reduces the cost of debts for an SPV. Another essential element of Islamic project finance is the ethical sharing of risks and returns between all project participants. The sharing of risks and returns among partners on a fair basis further reduce financing charges (Ahmed, 2015). Islamic project finance gained significant attention in North America, Europe, and Asia after the global financial crisis because of the high demand from project sponsors for low-risk capital (Ahmed, 2015; Zawawi et al., 2014). Javed and Fida (2015) stated Islamic project finance present interesting opportunities, which project owners can explore to fund infrastructure projects. For example, the high liquidity generated from oil and gas revenues in Middle Eastern countries means Islamic financial resources available for funding projects are abundant (Ahmed, 2015).

Governments wishing to develop the Islamic project finance market in their countries should establish a strong legal framework to ensure transparency, protect investors in cases of insolvency, and help to resolve disputes (Ahmed, 2015; Javed & Fida, 2015). When setting up Islamic financial structures, debt holders should ensure the quantum of reimbursements agreed with the project sponsor are not excessively higher than market rates. Otherwise, in case of dispute in a Muslim country, an Islamic court may rule the contract is unfair and either require the debt holders to reduce the reimbursement amount or request the debt holders to refund part of the payments made by the project sponsor (Hamra-Krouha, 2007). Financial experts should devise funding schemes, which satisfy the criteria of both Islamic finance and project finance.

Financial specialists may develop Islamic project finance models by using Islamic financial instruments. Shaikh (2017) stated project finance, which is a limited recourse finance model based on cash flows for servicing the debts, is similar to the mudharaba financial instrument. The Islamic banker provides capital from a sharia-compliant fund to project sponsors for financing a project and both parties agree on the duration of the project. The project sponsors are responsible for managing and executing the project. The project sponsors share the profits gained from using the funds with the Islamic banker in predetermined proportions. If the project fails, the Islamic banker cannot have recourse to the project sponsors and assume all financial losses unless the project sponsors default in their obligations. The project sponsors assume the costs associated with managing the funds. In compliance with the requirements of the fiqh muamalat, the Islamic banker owns the project assets until the closure of the final accounts. The Islamic banker does not require the project sponsors to provide collaterals. The mudharaba model is compatible with the project finance scheme because of the common features (Shaikh, 2017). Shaikh reported the mudharaba scheme is the most appropriate Islamic project finance structure. Shaikh mentioned while financiers may use other Islamic financial instruments ijarah and murabahah as debt mechanisms, financial models grounded on ijarah and murabahah are not suitable in the context of an Islamic project finance structure.

An Islamic banker shares the profits and losses made on the projects in its portfolio with its depositors according to predetermined proportions. The sharing of risks brings stability to the Islamic bank. The executives of an Islamic bank must select a

portfolio of projects with well-managed risks because, unlike conventional bankers, they cannot transfer the risks to the borrowers of the capital. The Islamic bankers require the project sponsors to comply with six important conditions to qualify for obtaining funds under the mudharaba scheme. The project sponsors should provide comprehensive information on the project description, cost, forecasted profits, and cash flow projections. The project sponsors must also submit information on the project owner and the project manager. The project sponsors must give the commitments they will provide competent project management services; they will use the project assets exclusively for the purposes of the project; they will not place any bond on the project assets; and they will submit regular cash flows, balance sheets, income statements, and reports to explain variations to the projections. The project sponsors must also provide the assurances they will provide the Islamic banker free access to the books of accounts; they will avoid conflicts of interest; and they will conduct business in compliance with the national law and the requirements of the sharia (Shaikh, 2017).

The SPV will disburse the funds from an account at the Islamic bank, which shall have the right to block payments not related to the project. The SPV shall pay part of the interim profits to the Islamic banker at a predetermined ratio and interval. The SPV will adjust the actual profits based on the final accounts at the termination of the mudharaba. The Islamic banker will assume all interim losses and may decide to stop providing funds if there is no possibility to rescue the project. The mudharaba will end on the specified date. The SPV will finalize the accounts and pay the share of the final profits to the Islamic bank within a specified period after the termination of the mudharaba. In case of

losses, the banker will assume all losses. The Islamic banker may claim any loss, which arose from the negligence or non-compliance of the SPV with the contractual obligations, or from the project manager's poor performance. In case of deficient project management or violations of the contractual provisions by the SPV, the Islamic banker reserves the right to take control of the project and carry out or outsource the project management services. The Islamic banker will share profits with the SPV according to a predetermined ratio and mutually-agreed contractual provisions up to the date of takeover by the bank. The Islamic banker may sell off the project assets to the project owner or to another buyer to recover deficits (Shaikh, 2017).

There are seven key differences between conventional project finance and Islamic project finance under the mudharaba model. The debt holders in the conventional project finance scheme do not share losses with the SPV. In case of project failure, the debt holders seize and sell off the collateral and deduct all monies due by the SPV. The Islamic banker cannot claim any losses from the SPV if the latter provided competent project management services and conducted ethical business practices. The managers of the SPV in a conventional finance structure need to repay a fixed amount of capital and applicable interests to the debt holders, irrespective of the project revenues. The Islamic banker will accept actual profits even if they are significantly less than the projected profits. Both Islamic and conventional project financiers assess the financial and economic viability of the project, the capability and integrity of the project sponsors, and the risk management plan proposed by the project sponsors. Islamic bankers focus more on the profitability of the project because the return on capital invested depends on the

profit magnitude. The conventional debt holders rely on the interests, which will be paid by the SPV, and the collaterals for securing the loan. The Islamic banker requires the project sponsors to provide unrestricted access to all project information, including accounts, for monitoring the project performance indicators. The Islamic banker needs such information because the latter will assume losses or may claim for the losses in case of project failure. The close inspections by the bankers encourage the project sponsors to prepare truthful accounts (Shaikh, 2017).

The SPV is the owner of the project assets in conventional project finance. The SPV should surrender ownership of the project assets to the debt holders as collaterals if the project fails. In Islamic project finance, the banker owns the project assets until the end of the mudharaba. The banker can only sell off the project assets if losses occur because of the negligence or non-compliance of the SPV with the contractual obligations or the project manager's poor performance. Selling owned project assets is much simpler and faster than recovering costs by seizing collaterals. The debts holders in conventional project finance schemes have no recourse or limited recourse to the project sponsors in case of project failure. In an Islamic finance structure, the banker may have recourse to the shareholders of the SPV if the banker incurs losses as a result of the gross negligence or illicit acts of the shareholders of the SPV (Shaikh, 2017).

The debt holders in a conventional project finance scheme cannot interfere in the management of the SPV. In the case of poor project management, the Islamic banker may take control of the project and carry out or outsource the project management services. The Islamic banker will share profits with the project sponsors according to a

predetermined ratio and mutually-agreed contractual provisions up to the date of takeover by the banker. The Islamic banker may sell off the project assets to the project owner or to another buyer to recover deficits. Islamic project finance is different from conventional project finance because of its compliance with the sharia requirements; however, the differences between the two variants of project finance are not material. Islamic project finance and conventional project finance share many similarities on core issues, such as the limited recourse arrangement and competent risk management (Shaikh, 2017).

Sillah (2018) suggested financiers supplement the Islamic project finance model with the sukuk financial instrument, in which an Islamic financial institution purchases assets, which it leases to project sponsors. The Islamic financial institution transfers the assets to an SPV, which sells the assets on the capital market in the form of sukuks. The SPV transfers the ownership rights of the assets to the sukuk holders (Duncan et al., 2004; Kabir & Soumaré, 2015). The issuer of the sukuks should ensure conformity to three conditions in line with the requirements of the sharia. The assets must be tangible. The sukuk holders should own the assets. All sukuk holders should have common ownership of the assets. No sukuk holders should have privileged ownership with respect to other sukuk holders (Sillah, 2018).

Sillah (2018) mentioned two types of sukuks to raise funding. Asset-backed sukuks are Islamic investment certificates backed by real assets. Asset-backed sukuk holders assume the risks of fluctuations in the market value of the assets. Asset-based sukuks are debt instruments based on the sale contracts of underlying assets. Issuers of the asset-based sukuks agree to pay the sukuk holders a guaranteed principal and return

when the latter redeem their titles at maturity (Sillah, 2018). Sillah stated asset-backed sukuks comply with the Islamic principle of profit and loss sharing between all parties in a transaction. Sillah mentioned the guaranteed principal and returns associated with the asset-based sukuks defeat the purpose of Islamic finance because the sukuk holders do not assume the risks of losses.

Sillah (2018) declared asset-backed sukuks withstood the global financial crisis in 2008 while asset-based sukuks defaulted because the issuers of the asset-based sukuks were not able to pay the guaranteed principal and returns to the sukuk holders. Sillah recommended financial specialists to integrate the asset-backed sukuk instrument in an Islamic project finance structure to fund public infrastructure projects. Sillah referred to the construction phase as a gestation period because the project does not generate revenues and the project sponsors accumulate debts during this interval. Sillah stated the introduction of the sukuks in the Islamic project finance model addresses this issue.

Sillah (2018) distinguished short-term investors from long-term investors. Sillah stated short-term investors favor safer incomes and capital preservation. Sillah suggested short-term investors provide funds during the construction of the infrastructure. Sillah mentioned long-term investors prefer financial growth and liquidity. Sillah recommended long-term investors provide funds during the operation phase. The short-term investors may purchase ownership of the infrastructure by buying asset-backed sukuks on the capital market. They will gain returns when they sell back their titles to the long-term investors at maturity, which is typically the end of the construction phase. The long-term investors will gain returns at maturity from their share of unitary payments made by the

project owner to the SPV in the case of social infrastructure or from their share of fares paid by users to the SPV in the case of economic infrastructure. The issuers of the sukuks may apply the diminishing musharakah approach, whereby the long-term investors gradually reduce their participation in the venture and sells all their shares to the project owner, who is the ultimate beneficiary of the investment, within an agreed timeline (Sillah, 2018).

Sillah (2018) proposed an Islamic project finance model complemented by the asset-backed sukuk financial instrument. The project owner identifies an infrastructure project and after technical, financial, and legal due diligence, enters an agreement with an Islamic financial institution to fund and construct the infrastructure. The Islamic financial institution owns the project assets and sets up an SPV to manage the construction project. The Islamic financial institution sets the duration of the project and provides capital to the SPV. The Islamic financial institution may adopt the mudharaba project finance model and gain its share of returns based on a predetermined ratio as a partner in the project finance scheme. The SPV uses the capital provided by the Islamic financial institution to pay consultants and contractors to start the construction of the infrastructure (Sillah, 2018).

To raise additional capital during the construction phase, the Islamic financial institution may transfer the ownership of the project assets to the SPV, which issues sukuks on the capital market backed by the project assets. Short-term investors buy the sukuks and own part of the project assets corresponding to the magnitude of their investments. The SPV uses the capital provided by the Islamic financial institution and

the additional capital raised by issuing sukuks to remunerate the consultants and the construction contractor. At the end of the construction phase, the short-term investors sell their sukuks on the capital market to long-term investors (Sillah, 2018).

During the operation phase, the completed infrastructure is self-financing. The SPV collects fees from users of the infrastructure or unitary payments from the project owner. The SPV uses the collected fees and payment to remunerate a contractor for operating the infrastructure. At maturity of the sukuks, the SPV buys the shares of the long-term investors at the prevailing market rates, as mentioned in the terms and conditions of the contract between the SPV and the sukuk holders. At the end of the concession, the SPV transfers ownership of the infrastructure to the project owner through redemptions of the proprietorship shares of the Islamic financial institution and the sukuk holders. At the termination of the mudharaba, the SPV finalize the accounts and pays the final profits to the Islamic financial institution. In the model, the Islamic financial institution, the short-term investors, and the long-term investors become business partners and they all share risks of profits and losses. No party knows in advance the returns it would gain. The model reduces massive debts risks by introducing equity contribution through shareholding (Sillah, 2018). Islamic project finance offers opportunities to fund large-scale infrastructure projects.

Project sponsors implemented various megaprojects using the Islamic project finance structure. Before 2001, international project sponsors were skeptical about whether Islamic financial institutions could set up a successful Islamic project finance structure to fund large-scale infrastructure projects. The successful funding of a $1.5

billion power and water desalination megaproject in Abu Dhabi, UAE in 2001 under an Islamic project finance scheme changed the views of international project sponsors. Other successfully completed megaprojects funded through Islamic project finance in Abu Dhabi include the construction of two power complexes worth more than $3.0 billion (Duncan et al., 2004).

Islamic financial institutions may also co-finance a component of a project at the request of a project owner if the component complies with the sharia (Duncan et al. 2004). For example, a project owner may increase the project liquidity by requesting an Islamic financial institution to fund the construction of a school as part of a smart city project. Clinch and Pilbeam (2006) stated Islamic financial institutions financed three infrastructure megaprojects, namely petrochemical and refinery plants in Rabigh, Jubail, and Yanbu, Saudi Arabia. Saudi Aramco from Saudi Arabia, Total from France, ConocoPhillips from the United States, and Sumitomo Chemical from Japan sponsored the megaprojects. The Public Investment Fund of Saudi Arabia (PIFSA) and the Japan Bank for International Cooperation (JBIC) signed an agreement in 2006 to finance the $9.8 billion worth integrated petrochemical complex in Rabigh, which is one of the largest oil refineries in the world. PIFSA supplied part of the required funds through Islamic finance and JBIC provided the remaining funds through conventional finance (Clinch & Pilbeam, 2006). Other famous megaprojects funded by an Islamic project finance structure include the Kuala Lumpur International Airport and the Putra Light Railway Transit II projects in Malaysia (Zawawi et al., 2014). Project sponsors may

propose custom-made Islamic project finance solutions to suit the specificity of the project.

The Islamic project finance scheme is flexible. Hamra-Krouha (2007) stated Islamic financial institutions funded a $1.0 billion petrochemical plant in Al-Waha, Saudi Arabia by way of two separate agreements. Under a procurement arrangement, the project creditors provided funds to the SPV during the construction stage. In return, the project creditors owned a share of the plant, which was equivalent to the volume of funds they credited, as agreed by all parties in the financing contract. The project creditors agreed to sell their share of the plant with profit at a consented price to the SPV at the project completion time. The SPV used the credited funds to pay a contractor for constructing the plant. The project creditors, the SPV, and the contractor agreed on the construction completion date. When the contractor completed the construction of the plant, the SPV acquired the share of the plant from the project creditors by paying the latter installments in accordance with the financial arrangement. In compliance with the sharia, the project sponsor started to repay only after the construction of the plant (Hamra-Krouha, 2007).

The project creditors provided funds to the SPV during the operation stage under a lease agreement. In return, the project creditors owned a share of the plant, which was equivalent to the volume of funds they credited, as agreed by all parties in the financing contract. The project creditors and the SPV concurred on the duration of the lease. The SPV used the funds to pay a contractor for operating the asset. The SPV paid the lease to the project creditors through installments in compliance with the lease contract. The

project creditors transferred ownership of their share of the plant gradually to the SPV in proportion to the cumulative lease paid. When the SPV paid the total lease amount specified in the lease agreement, the project creditors transferred the whole ownership of their share to the SPV (Hamra-Krouha, 2007). Business leaders may consider Islamic project finance as an innovative and sustainable strategy to achieve the organizational objective of concluding infrastructure projects successfully.

Transition

Section 1 was an overview of project funding, especially the issues and problems affecting the construction industry. Construction project owners need funds to pay contractors, consultants, and suppliers for the executed works. Construction business leaders experience project failures because of their inability to secure sustainable funding (Nguyen & Chileshe, 2015). This multiple case study involved five companies responsible for construction projects in the Middle Eastern countries forming part of the GCC, with successful strategies to secure sustainable funding for completing infrastructure projects. A case study design was the most appropriate method for answering the research question of *what strategies do construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects?* Construction business leaders who understand the risks of project failures in consequence of funding challenges may develop better strategies for obtaining funds to conclude infrastructure projects successfully.

Section 2 refers to the research process with a comprehensive description of the researcher's role, the participants' characteristics, the research method and design, the

population and sampling, the ethical research approach; the data collection instruments and technique, the data organization technique, the data analysis method, and the reliability and validity considerations. Section 3 consists of the presentation of the findings, the applications to professional practice, the implications for social change, the recommendations for action and further research, the reflections, and the conclusion.

Section 2: The Project

In this doctoral study, the objective was to focus on strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. Leaders of both public and private organizations in developing countries should focus on upgrading the infrastructure rapidly to ensure sustainable and long-term economic growth (Lu et al., 2015; Zawawi et al., 2014). Construction project owners in low-income and middle-income countries do not have adequate means to invest in infrastructure (Javed & Fida, 2015). This section covers the favored approach to apply to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The major themes include the researcher's role, the participants' characteristics, the research method and design, the population and sampling, the ethical research approach, the data collection instruments and technique, the data organization technique, the data analysis method, and reliability and validity factors.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The population for this study consisted of leaders of organizations owning construction projects in Middle Eastern countries forming part of the GCC, with successful strategies to secure sustainable funding for completing infrastructure projects. This study may contribute to social change by ensuring communities benefit from successfully implemented infrastructure projects. A stable

building sector implies adequate incomes for project owners, contractors, consultants, and suppliers operating in the construction industry. A stable building sector contributes significantly to economies and may ensure higher job security and improved working conditions for people employed by construction businesses.

Role of the Researcher

The researcher is the primary research instrument. Karagiozis (2018) as well as Cumyn, Ouellet, Côté, Francoeur, and St-Onge (2018) stated the role of a researcher is contributing knowledge on a topic by exploring the research issue objectively. Karagiozis mentioned researchers interact with the participants of their study, collect data from them, and interpret the findings. Researchers should be objective because subjectivity adversely affects the quality of the research (Karagiozis, 2018). As an example, Karagiozis specified researchers should avoid imposing or projecting their own views on the participants' responses. Otherwise, the study would not be valid. Researchers should actively listen to the participants, build trust, and demonstrate compassion with them (Karagiozis, 2018).

Researchers have the social obligation to conduct a study ethically and preserve the integrity of the research (Cumyn et al., 2018). Karagiozis (2018) mentioned researchers should comply with a code of ethics and avert biases. Karagiozis also stated researchers should not be in conflicting situations. For example, researchers should not interview their own colleagues. Researchers should also protect the participants (Cumyn et al., 2018). Karagiozis declared researchers should respect the rights of the participants

and should not adopt a negative attitude towards them. Researchers should not act against the interest and welfare of the participants of the study (Karagiozis, 2018).

My role as a researcher involved collecting and analyzing data from the participants. During the research, I worked as a civil engineer and a project manager in the construction industry. I did not have any business relationships with the intended participants of the study or with the organizations where they work. I asked six preliminary questions, six strategic research questions, one follow-on question, and one wrap-up question during the interview (see Appendix A). An interview protocol (see Appendix B) ensured my previous experience in infrastructure project funding did not interfere with my interpretation of the collected data. In line with the interview protocol (see Appendix B), the recorded interviews purposely limited my own perspectives on infrastructure project funding from the research objectives. The member checking technique allowed me to ascertain the accurate interpretation of the collected data and enhanced the trustworthiness of my research.

Data collection commenced after receiving approval from the Institution Review Board (IRB) of Walden University. The IRB's approval number for this study is 09-16-19-0739512, and the expiry date is September 15, 2020. The IRB plays an essential role in the research process (Vitak, Proferes, Shilton, & Ashktorab, 2017). The IRB ensures researchers uphold ethical principles when they interact with human subjects as part of their study (Domenech Rodríguez, Corralejo, Vouvalis, & Mirly, 2017; Miracle, 2016). The IRB provides methodological and ethical support to researchers while protecting the rights of participants (Domenech Rodríguez et al., 2017; Vitak et al., 2017). With

reference to the ethical principles, the IRB verifies researchers secure informed consents from the participants, carry out a meticulous risk-benefit assessment, and justify the selection of the participants (Domenech Rodríguez et al., 2017). The IRB approves a research approach in which the probable benefits outweigh the possible risks (Walden University, 2019). The IRB assesses applications for conducting research in accordance with the Belmont Report (Miracle, 2016).

The United States government founded the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (NCPHS) under the National Research Act in 1974 to find the judicious balance between the need to advance knowledge for the welfare of the society and the need to protect the dignity, privacy, and freedom of people (Adashi, Walters, & Menikoff, 2018). The NCPHS identified basic ethical principles in research and developed guidelines to help researchers conduct studies in compliance with the ethical principles. The Belmont Report summarized the basic ethical principles and guidelines, which NCPHS identified to assist researchers in addressing ethical challenges during the conduct of studies involving human subjects (Adashi et al., 2018; NCPHS, 1979). Miracle (2016) highlighted the guidelines mentioned in the Belmont Report are still applicable after more than 35 years since the release of the document.

The Belmont Report highlights three basic ethical principles: respect for people, beneficence, and justice. The moral principle of respect for people means that researchers should treat participants as autonomous individuals with considered opinions and choices. Researchers should not withhold information necessary for participants to make

considered judgments and the researchers should not reject or restrict the participants' considered judgments unless the said judgments are detrimental to others. Researchers should also protect persons with reduced autonomy and seek the authorizations of third parties, who would act in the best interests of these persons. Participants should be free to take part in the study and researchers should provide all necessary information to the participants (Adashi et al., 2018; Miracle, 2016; NCPHS, 1979), such as the possible benefits and the risks of harms consequential to their involvement in the study (NCPHS, 1979).

The moral principle of beneficence means that researchers should make all the necessary efforts to ensure the welfare of the participants. Researchers should maximize the possible benefits to the participants. Researchers should also avoid or mitigate all potential harms to the participants (Adashi et al., 2018; Miracle, 2016; NCPHS, 1979). The moral principle of justice means that researchers should not exploit vulnerable subjects by imposing research burdens and distributing research gains unfairly. Researchers should avoid selecting participants merely on their ease of availability, their compromised situation, or their manipulability. The applications of the research should also benefit the participants (Adashi et al., 2018; NCPHS, 1979).

Researchers should comply with three main requirements when they apply the basic ethical principles highlighted in the Belmont Report. To address the principle of respect issue, researchers should obtain informed consents from all participants in the study. Researchers should provide adequate information on the research procedure, the research objectives, the benefits and risks associated with the research, and the possibility

for the participant to ask questions or to withdraw from the study at any time. Researchers should ensure the participants fully understand all the information provided. Researchers should obtain consents by participants voluntarily. Researchers should not force or influence people to participate in the studies (Adashi et al., 2018; Miracle, 2016; NCPHS, 1979). To address the principle of beneficence, the researcher should assess the risks and benefits associated with the study (Adashi et al., 2018; Miracle, 2016; NCPHS, 1979).

Researchers should identify all the potential harms (such as physical, psychological, legal, social, and economic harms to the participants, their families, and the society) as risks and evaluate the probability and magnitude of each risk (NCPHS, 1979). Researchers should also identify all the anticipated positive values (such as knowledge gained for social good) as benefits. Researchers should demonstrate how they would mitigate the risks and justify all enduring risks (Adashi et al., 2018; Miracle, 2016; NCPHS, 1979). To address the principle of justice, researchers should select participants and treat them with fairness and equality (Adashi et al., 2018; Miracle, 2016; NCPHS, 1979). Researchers should ensure the study does not benefit only a certain category of the population and cause harm to another group. Researchers should not exhibit social, racial, sexual, and cultural biases (Adashi et al., 2018; NCPHS, 1979).

The approved procedures by Walden University's IRB, which I used to guide my interviews, as well as the data storage and destruction processes, started with the completion of the IRB application. The action consisted of providing all the necessary materials, such as the consent forms. In line with the requirements of the IRB, the

researcher must translate any non-English interviews and documents in English, submit a request to the IRB for approving any change in the research procedures, and report any adverse event (such as the submission of data by a participant who faces disciplinary actions for breach of a confidentiality clause) to the IRB. I conducted all interviews in English, reviewed only materials written in English, did not change any research procedure, and did not experience any adverse event during the research period. I did not collect any data, which could be considered as sensitive, offensive, threatening, or degrading.

For this qualitative multiple case study, two sources provided the fundamental data. The procedure was to interview leaders and managers of businesses owning construction projects. An interview is a data collection method that researchers commonly use in qualitative case studies (Doody and Noonan, 2013; Saunders et al., 2016). An interview consists of a guided conversation between an interviewer and one or more participants by means of questions (see Appendix A) and answers (Saunders et al., 2016; Yin, 2017). The aim of the interview is to obtain sufficient data to answer the research question (Doody and Noonan, 2013; Saunders et al., 2016). An interview is one of the most important sources of evidence in a case study (Yin, 2017). To obtain enough data, researchers should carry out in-depth interviews using open-ended questions (see Appendix A). A well-prepared interview allows researchers to obtain the required data within the time allocated for the interview (Saunders et al., 2016).

An interview protocol (see Appendix B) ensured consistency throughout the interview process. An interview protocol (see Appendix B) is a practical manual for

guiding researchers through the interview process (Jacob & Furgerson, 2012). To collect adequate and detailed data, researchers should prepare the interview protocol (see Appendix B) to organize the way to interact with the interviewees, to ask the right questions (see Appendix A), and to ensure consistency between the interviews (Doody & Noonan, 2013; Saunders et al., 2016). Researchers may devise and use an interview protocol (see Appendix B) as a tool to ensure they conduct all interviews consistently, they focus on the research questions (see Appendix A), and they set up the adequate environment to obtain reliable responses (Rabionet, 2011).

An interview protocol (see Appendix B) features information on introducing, conducting, and concluding the interview process. The introduction part of the protocol (see Appendix B) should present the researcher and provide material on confidentiality, consent, respondents' rights, and intended use of the research findings. The main component of the protocol (see Appendix B) should include the interview questions (see Appendix A). The conclusion part of the protocol (see Appendix B) should contain follow-up and closing probes (Rabionet, 2011). The interview protocol (see Appendix B) should feature prompts to warn the interviewer to seek informed consent from the participants before starting the interview, to keep the interview on track and obtain the required information, to notify the respondents the interviewer may contact them to clarify collected information or obtain any additional information, and to request the participants to cooperate in the member checking process (Jacob & Furgerson, 2012). The next step was to collect data from official reports published by organizations funding infrastructure projects.

The strategy to mitigate bias consisted of using the member checking approach, the *interviewing the investigator* technique, and the *methodological triangulation* method. Researchers using the member checking approach interpret the data provided by the respondent. The researcher then shares the interpreted data with the respondent for validation (Birt, Scott, Cavers, Campbell, & Walter, 2016; Saunders et al., 2016). Researchers applying the interviewing the investigator technique simulates the character of the participant and a colleague conducts as well as records the interview. The researcher then analyzes the recording to identify biases and take corrective actions (Chenail, 2011).

Researchers using the methodological triangulation method use more than one data collection method to verify the convergence of data sources and confirm the consistency of the collected data. For example, qualitative researchers may use the methodological triangulation technique by collecting data both from interviews and document analysis (Fusch, Fusch, & Ness, 2018). The technique served to broaden the understanding of organizational events and decision-making processes.

Participants

Data collection commenced only after receiving approval from Walden University's IRB. The purposive and snowball sampling methods were essential to obtain the participation of five eligible business leaders, each working in a distinct organization owning construction projects. Purposive and snowball sampling techniques are appropriate for a case study. Researchers use purposive sampling to choose cases best suited to attain the research objectives and to answer the research questions (see

Appendix A). Researchers apply snowball sampling to obtain additional participants based on information provided by the initial respondents (Saunders et al., 2016).

Yin (2017) recommended researchers use the multiple case study design instead of the single case study design to demonstrate the reliability of their data analysis based on the possibility of direct replication. Yin further stated researchers strengthen their findings by studying more than one case. Yin suggested researchers study at least two cases in the event of constraints and mentioned investigating three cases would consolidate the findings. This doctoral study involved the exploration of five cases.

To help in collecting valid and reliable data, researchers should select the appropriate interviewees and ensure they gain access to the participants (Saunders et al., 2016). The eligibility criteria for taking part in this study were: the potential participants should have been at least 18 years old and should have worked for organizations owning construction projects in a country forming part of the GCC, the business leaders of the organizations should have successfully implemented project funding strategies, and the prospective participants should have been conversant with the successful project funding strategies. I did not work with a research partner.

To gain access to participants, the action consisted of identifying organizations owning construction projects in GCC states by referring to a publicly available list published on the website of Arabian Business, which contained detailed information on business companies operating in GCC countries. The subsequent step was to visit the official websites of the organizations to note their corporate email addresses in the *contact us* section. The practice was to send the invitation emails (see Appendix C) to 30

organizations to the attention of their chief executive officers (CEOs). I interviewed CEOs only because they oversee all business operations within their organizations and are well aware of the organizational strategies.

The consent form contained the eligibility criteria. I interacted with the potential participants by phone before conducting the interviews to ask them questions about their dates of birth, roles and responsibilities at work, and experience in their organizations. The aim was to interview only prospective participants who met the eligibility criteria. Informing the participants, they could ask me any question regarding their participation in the study was the next step.

To develop a working relationship with the participants, each received an informed consent form with the invitation email (see Appendix C). The addressees were requested to read the form and confirm their participation if they were interested in taking part in the research. The consent form featured the following details: the eligibility criteria, the purpose of the study, the data collection procedures, the voluntary nature of the study, the risks and benefits of participating in the study, compensation for taking part in the study, measures to protect the privacy of the participants and the confidentiality of the collected dataset, a declaration on conflicts of interest, and contact details for further information.

Opdenakker (2006) and Saunders et al. (2016) stated researchers may conduct electronic interviews in real-time using computer technologies via the internet, such as Skype (Hanna, 2012; Opdenakker, 2006; Saunders et al., 2016). Skype is an easily accessible and free service, which researchers may use to interact visually and hold live

video conversations with a respondent located at physically remote locations, in a stage similar to a conventional interview. Skype is also a convenient and safe alternative because the interviewer and the respondent can interact while staying at places of their choice (Hanna, 2012). In line with the interview protocol (see Appendix B), the stage was set to conduct the interviews via Skype because the participants stayed in GCC states, located more than 5,000 Km from my place of residence.

Research Method and Design

Researchers choose a research method and design in relation to the research questions (see Appendix A), objectives, time and cost constraints as well as access to participants and required data. A research method is a strategy of collecting and analyzing data. Saunders et al. (2016) stated the objective of the research method was to find answers to the research questions (see Appendix A). Yin (2017) mentioned a research design is a plan relating the research questions (see Appendix A) to the data collected and analyzed in the study. Yin declared the objective of the research design was to avoid a circumstance where the collected and analyzed data do not address the research questions (see Appendix A).

Research Method

The three research methods are the qualitative, quantitative, and mixed methods. The qualitative method relates to the positivism philosophy. A qualitative researcher focuses on the collection and interpretation of narrative data (Saunders et al., 2016). Daher et al. (2017) stated a qualitative researcher studies a phenomenon through the experiences and inferences of the research participants. Firestone (1987) mentioned

researchers using the qualitative research method use existing facts to support their findings and demonstrate to readers their interpretations are rational. Researchers utilize the qualitative research method with an inductive approach to elaborate theories or with a deductive approach to test theories. In qualitative studies, researchers use open-ended questions (see Appendix A) during interviews (Doody and Noonan, 2013; Saunders et al., 2016). The qualitative approach was appropriate for this study as the process was to use open-ended interview questions (see Appendix A) to learn from the experiences and inferences of business leaders.

The quantitative method is based on the interpretivism philosophy. A quantitative researcher focuses on the collection and measurement of data as well as on statistical and graphical analysis to examine relationships or differences between variables (Saunders et al., 2016). Barnham (2015) said a quantitative researcher studies a phenomenon by measuring variables in a sample and conducting statistical analysis on the collected data. Firestone (1987) stated researchers using the quantitative research method reduces bias and relies on factual data to mitigate the risks of distortions. Researchers may use the quantitative research method with an inductive approach to develop theories. Researchers can also utilize the quantitative research method with a deductive approach to test theories. In quantitative studies, researchers use closed-ended questions to test hypotheses (Saunders et al., 2016).

The quantitative approach was not suitable for this study as the objective was not to examine statistical data to explain the how and what questions driving this investigation. The mixed methods technique combines the use of qualitative and

quantitative data collection and analysis techniques (Saunders et al., 2016). The inclusion of quantitative analysis rendered the mixed methods approach an inappropriate choice for this study.

Research Design

Qualitative research designs include action research, ethnography, grounded theory, narrative inquiry, and the case study designs. Action researchers engage in organizational learning by identifying issues and then planning, taking, and evaluating actions to resolve the issues (Saunders et al., 2016). Action research design was not practical for this study because it would have required the involvement of participants throughout the whole research process. Ethnographic researchers carry out an in-depth study of the research subjects within a unique cultural context (Saunders et al., 2016). The ethnographic design was inappropriate for this study because culture or uniqueness were not identifiers separating the selected business owners from the population norm.

Grounded theory researchers develop a concept from a set of data (Saunders et al., 2016). Grounded theory design was not convenient for this study because the practice was to identify strategies instead of developing new theory to solve business problems. Narrative researchers engage in the collection and analysis of the participants' experiences as complete stories rather than fragmented data (Saunders et al., 2016). The narrative inquiry strategy was not suitable for this study because life histories would not have been relevant in business owner strategies for decision-making processes.

Researchers conduct case studies to explore the interaction between a phenomenon and its context (Saunders et al., 2016). Yin (2017) stated a case study is a

detailed investigation into a research topic within its real-world setting, using multiple sources of evidence. This research design may involve searching through archival records, conducting interviews, or collecting data by means of questionnaires (Saunders et al., 2016). Case study research may consist of a single case or multiple cases (Yin, 2017).

A researcher may use a single case study strategy if the case is critical, unique, or typical. A researcher may apply a multiple case study strategy to check replication across the cases (Yin, 2017). As a result of the detailed nature and issues associated with access to restricted information, carrying out case studies are time-consuming and costly (Saunders et al., 2016). The case study design was appropriate for this study because I explored the phenomenon, using open-ended questions (see Appendix A) and reviewing available documentation. The study included five cases to balance the need for replication and the limited resources available to conduct the study.

Fusch and Ness (2015) mentioned researchers attain data saturation when they collect adequate information to replicate the study, when it is no longer possible to obtain additional information, and when further coding is not feasible. Fusch and Ness said researchers using the member checking and triangulation techniques in case study designs obtain in-depth data and can attain data saturation. The member checking method consists of interpreting the data provided by the interviewee and sharing the interpretations with the latter for validating the collected data. The member checking approach ensures the researcher rightly interpreted the data provided by the participant (Birt et al., 2016; Marshall & Rossman, 2016). Methodological triangulation involves

using various methods to collect data on a particular research topic and comparing the findings (Denzin, 2009). The methodological triangulation approach increases the depth of the study, ensures the validity and reliability of data and results, promotes the saturation of data, and reduces bias (Fusch et al., 2018). For this qualitative multiple case study, member checking and the methodological triangulation techniques were essential to obtain detailed and dense data as well as attain data saturation during the interviews. The objective was to continue interviewing participants until no new information emerged. The study of five cases was adequate in meeting this objective.

Population and Sampling

The population for this qualitative multiple case study consisted of construction business leaders, who contributed to the development or implementation of successful construction project funding strategies in Middle Eastern countries forming part of the GCC. The six members of the GCC are Saudi Arabia, Kuwait, the UAE, Qatar, Bahrain, and Oman. The construction industry is thriving in the GCC states. For example, while the contribution of the construction business to the gross domestic product (GDP) of the United States was 6% in 2014 (States News Service, 2016), the share of the construction sector was 16% in Qatar (Emam, Farrell, & Abdelaal, 2015), which is one of the fastest-growing industry in the world (Senouci, Ismail, & Eldin, 2016).

Emam, Abdelaal, and Farrell (2014) reviewed 18 articles on construction project failures in all GCC countries and interviewed five construction professionals, and found the rate of construction project failures in the GCC states was high, but the main reasons of failures were inefficient project planning and control. The project failures in the GCC

countries are not predominantly related to funding issues (Emam et al., 2014; Senouci et al., 2016) in contrast to other states, where 50% of construction project failures occur in consequence to a shortage of funds (Nguyen & Chileshe, 2015).

The Organisation for Economic Co-operation and Development (OECD) conducted a study under the *MENA-OECD Investment Programme* to assess the financial systems of the Middle East and North Africa (MENA) countries in 2005. MENA states include countries forming part of the GCC. The OECD found MENA states developed innovative financial products to fund projects. For example, MENA countries introduced Islamic finance instruments to support the funding of projects (OECD, 2005). Transactions linked to the funding of infrastructure projects through Islamic finance instruments increased significantly in the Middle East since the beginning of the second millennium (Duncan et al., 2004).

The GCC states hold the world's largest capital markets. Governments in GCC countries have also well-developed their financial sector and GCC capitals are famous financial centers (Khediri et al., 2015). The target population shared valuable project funding strategies, which business leaders may implement to ensure the successful conclusion of infrastructure projects. I did not consider the size of the organizations, where the participants worked, as a factor in this study.

In this qualitative multiple case study, the purposive and snowball sampling methods were effective approaches to select business leaders who worked in distinct organizations owning construction projects and contributed to the development or implementation of successful project funding strategies. Ilker, Musa, and Alkassim

(2016) explained purposive sampling, also known as judgment sampling, is a non-probability technique, which a researcher uses to select a sample from a population. The purposive sampling method seems to be the most widely used sampling technique in qualitative research (Oppong, 2013). Even if a non-probability sampling technique is subjective, it is a useful method for researchers experiencing limited time and resources to conduct their studies (Ilker et al., 2016; Oppong, 2013).

Researchers also apply a non-probability sampling technique to focus on participants who suit the objective of the research and provide the necessary assistance for the benefit of the study (Ilker et al., 2016). Researchers use purposive sampling in qualitative studies to intentionally select participants because of their aptness to provide information by virtue of their knowledge or experience as well as their willingness and ability to take part in the study (Ilker et al., 2016; Oppong, 2013). The snowball sampling is a method; which researchers may apply to obtain additional participants based on the suggestions of initial respondents. The snowball sampling technique is particularly useful when recruitment of participants by purposive sampling is challenging (Saunders et al., 2016).

Researchers expect the participants to contribute exclusive and valuable information to the research (Ilker et al., 2016). Saunders et al. (2016) stated case-study researchers use the purposive sampling technique to select the most appropriate cases to meet the research objectives and to answer the research questions (see Appendix A). The determination of the optimum sample size is essential in qualitative study (Oppong, 2013). In purposive sampling, researchers determine the size of the sample by the data

saturation criteria instead of the statistical power analysis (Ilker et al., 2016). Yin (2017) recommended researchers study at least two cases if they experience limitations in resources. Yin suggested researchers study at least three cases to consolidate their findings. I gained access to only three CEOs to participate in my study through purposive sampling. I used the snowball sampling technique to identify two additional participants to take part in this study and attain data saturation. Researchers use the snowball sampling method to obtain additional participants proposed by the initial respondents (Saunders et al., 2016).

The process was to send emails (see Appendix C) to 30 business leaders to explain the objective of the study and to invite them to participate in the research. To be eligible to take part in the study, the potential participants should have been at least 18 years old and should have worked for organizations owning construction projects in a country forming part of the GCC, the business leaders of the organizations should have successfully implemented project funding strategies, and the prospective participants should have been conversant with the successful project funding strategies.

There was no intention to recruit vulnerable populations and the interview questions (see Appendix A) did not trigger psychological distress or violent reactions. The plan consisted of selecting participants based on their abilities to provide rich answers to the research questions (see Appendix A) because of their appropriate knowledge and successful experience with the research phenomenon. Interviews were conducted using the Skype telecommunication software because the participants, whom I interviewed live in foreign countries, and there was no plan to travel to conduct face-to-

face interviews. I used a voice recorder application on my smartphone to record the interviews.

Before conducting the interviews, I asked the participants to find a suitable, private, secluded, comfortable, and quiet room with a closing door found outside their work premises as well as to conceal their participation in the study. I also ensured nobody else saw or heard the participants' responses at my location during data collection. Skype exploits encryption technology to protect data transfer. The procedure was to protect the identities of the participants, ensure privacy during data collection, and avoid distractions during the one-to-one interviews and follow-up member checking meetings via Skype.

I allowed the participants to decide a convenient time beyond their working hours to conduct the interviews. The interview protocol (see Appendix B) guided the interview process to ensure consistency in the data collection process, to focus on the research questions (see Appendix A), and to encourage the participants to provide reliable responses. Interviews were conducted only after receiving approval from Walden University's IRB. All participants met the eligibility criteria to take part in the study.

Ethical Research

Ethical considerations regarding my target population affected both the process and the value of my doctoral study. Saunders et al. (2016) described research ethics as the standards of behavior, which guide conduct in relation to the rights of those who participate in or are impacted by the study. Ethical considerations are critical aspects for the success of a research project. Ethical flaws pose a serious threat to the integrity of scholarly research (Honig, Lampel, Siegel, & Drnevich, 2017). Yin (2017) stated

researchers should strictly comply with research ethics as an approach to avoid bias. Universities typically develop a code of ethics, which features a list of principles and standards applicable to the conduct of research (Frechtling & Boo, 2012). Ethical principles include integrity and objectivity of the researchers, respect of rights and privacy of the participants, avoidance of harm to the participants, rights of the participants to refuse contributing to the study or to withdraw from participation, obligations of researchers to provide sufficient and clear information to the participants, the guarantee of confidentiality and anonymity to the participants, and ensuring the safety of the researchers and participants (Saunders et al., 2016).

Walden University established an Institutional Review Board (IRB) to assess the probable ethical impacts of a proposed study by examining the benefits and risks. The IRB will approve studies in which sound ethical practices are applied and the probable benefits outweigh the possible risks (Walden University, 2019). Researchers should comply with the conditions imposed by the IRB. Researchers should also use their natural moral responsibility and professional autonomy to remain ethical at all times (Greenwood, 2016). By adopting such ethical approach, researchers will promote positive change within their given field by communicating honest findings to the public and helping to devise and implement fair policies, which will be in the best interest of the society.

Murthy (2013) mentioned researchers should provide clear information to the participants on the objectives of the study. Murthy also stated researchers should obtain informed consents from the participants before conducting research. Judkins-Cohn,

Kielwasser-Withrow, Owen, and Ward (2013) recommended researchers secure informed consents to ensure the participants obtain all required information and participate in the study voluntarily and autonomously. The action consisted of providing all necessary information clearly in the consent form to keep the doctoral research as ethical as possible and to allow the participants to make an informed decision about whether they would take part in the study. The subsequent step was to kindly request the potential participants to endorse the consent form, which contained my contact information as well as the email and phone number of Walden University's IRB. The IRB's approval number for this study is 09-16-19-0739512. The consent form featured a statement the participants could withdraw from the study at any time without any adverse consequence.

Cross, Pickering, and Hickey (2014) stated researchers should safeguard all participants from any possible harm. To protect the participants from potential harm, I completed the training course *Students Researchers* certified by the Collaborative Institutional Training Initiative (CITI) Program. I took the necessary measures to ensure each participant's career was not at stake through their contribution to this study. Connelly (2014) as well as VanderStoep and Johnston (2008) mentioned participation in research should be voluntary. The participants were informed in the consent form their participation in the study was deliberate, and they had the right to withdraw at any time before or during the interviews without any adverse consequence for them. I also mentioned in the consent form the participants could request the researcher to stop the interview or follow-up meeting for any reason. For example, the participants could ask the researcher to stop the interview if they were not feeling well.

Resnik (2015) stated researchers may provide incentives to potential participants to encourage them to participate in their studies. Resnik recommended researchers to avoid offering unwarranted incentives to ensure participation in the study remains voluntary. There was no material compensation to the participants, but I will share the results of the research with the participants via a 2-page concise document after the approval of my final study by Walden University. All information shared will not reveal the identities of the participants and I will use simple words, short sentences, and smart graphics to communicate the research findings and conclusions quickly and easily. The design of the contents and format of the document will ensure effortless understanding by the participants.

Fedina (2015) stated researchers should use the right methodologies scientifically and objectively to collect, analyze, and interpret data ethically. Due diligence assured adequate ethical protection of all the participants. In line with ethical research guidelines to avoid conflicts of interests, I conducted the research outside my own context, the participants did not work in firms linked to my organization, and no participants were included whom I knew personally or professionally or with respect to whom I was in a position of authority or familiarity. I confirmed in the consent form not to have any financial or other personal consideration, which could compromise my professional judgment in conducting or reporting the research. I did not undertake any covert study to obtain data, which otherwise I would not have access to, or falsify, plagiarize, or invent data to improve the coherence of the findings. Last, I neither imposed any time limit in

the invitation email (see Appendix C) and consent form to confirm participation nor coerced participants in their responses.

Novak (2014) and Saunders et al. (2016) suggested researchers store all collected data securely to prevent leakage of confidential information. To align with Walden University's policy, I will keep the collected data safely for five years. After that, all the written and printed dataset will be shredded and all electronic files will be permanently deleted using data-erasing software. Connelly (2014) stated researchers should obtain the approval of the IRB before conducting research. The study included only procedures approved by Walden University's IRB. There was no need in the study to change a research procedure or report any adverse event to the IRB. After obtaining approval from the IRB, the consent form contained the approval number and the date of expiration.

Rashid, Caine, and Goez (2015) said researchers should protect the privacy of the participants and should not disclose confidential information provided by the participants. To ensure accountability and to mitigate any risk to the participant during data collection, storage, and destruction of data, I abided by the conditions agreed with the participant in relation to keeping confidentiality and protecting identity. For example, some participants imposed not to reveal certain information they provided during the interviews. I also described the participants as business leaders working in organizations owning construction projects in GCC states, and there are hundreds of business leaders matching this description.

I did not use demographic descriptors (such as age, ethnicity, nationality, work experience and organizations, etc.) for the participants and utilized acronyms (such as P1,

P2, P3, and P4) instead of names to protect their identities. The action to ensure confidentiality also comprised conducting all interviews and follow-up meetings in English only and performing the transcription using software, instead of hiring the services of a translator and transcriber, to avoid leakage of identifiable and confidential information. There was no need in the study to report illegal actions because none of the participants disclosed illicit activities or abuse during the data collection process.

Data Collection Instruments

Chenail (2011) as well as Sutton and Austin (2015) mentioned the researcher is the primary instrument for collecting data required for the study. Saunders et al. (2016) and Yin (2017) stated a researcher conducts an interview as a source of evidence in a case study to obtain adequate data to answer the research question. Rabionet (2011) recommended researchers use the semistructured interview approach to focus on data, which will be useful to the research work. Saunders et al. (2016) explained a semistructured interview is an in-depth interview technique with well-elaborated open-ended questions (see Appendix A), which researchers ask participants to obtain detailed data needed for addressing the research problem.

To collect primary data, I conducted semistructured interviews with business leaders who worked at organizations owning construction projects in the GCC states and who successfully implemented or were conversant with strategies to secure sustainable funding for completing infrastructure projects. Although Arabic is the official language in GCC countries, I interviewed only participants who could speak English.

An interview protocol (see Appendix B) is a manual helping the researcher to focus on the collection of good quality data during the interview process (Chenail, 2011; Denzin & Lincoln, 2000; Jacob & Furgerson, 2012). The interview protocol (see Appendix B) is a written guide containing the list of interview questions (see Appendix A) and prompting researchers to introduce themselves to the participants, to explain the objectives as well as the scope of the research and the interview to the participants, to inform the participants about their rights and the need to give consent, and to invite the participants to take part in the validation process (Rabionet, 2011). I developed and used an interview protocol (see Appendix B) as a practical guide during the interview process.

Hanna (2012) stated a researcher may use a telecommunication program, such as Skype, to conduct an interview in real-time in a setting similar to a conventional interview. Skype interviews were appropriate for this research because the practice was to interact with participants from foreign states, located far from my country of residence and there was no plan to travel abroad. Doody and Noonan (2013) as well as Opdenakker (2006) recommended researchers audio-record the interviews and take notes during the interview process.

During the interviews, the strategy to capture all the data provided by the participants was to record the conversations on Skype using a voice application on my smartphone. Following the interview protocol (see Appendix B) and writing down important notes on a pad to highlight answers for which I needed additional information or clarifications from the participants, enhanced the data collection process. Thorsteinson (2018) found the interview length influenced the credibility of the interview process.

Thorsteinson recommended interviewers to aim for an interview duration between 20 and 60 minutes, with an optimum interview length of 30 minutes. Each interview did not exceed 30 minutes.

Yin (2017) recommended researchers use multiple sources of evidence to enhance the trustworthiness of their study. Saunders et al. (2016) stated researchers may collect secondary data to provide additional knowledge or to compare with the primary data. The process was to collect secondary data, compiled by prominent organizations involved in the funding of infrastructure projects, which were suitable for my research question. I extracted secondary data from the following publicly-accessible reports: (a) *Mobilizing Islamic finance for infrastructure public-private partnerships* published by the World Bank Group (WBG), (b) *Islamic finance: Opportunities, challenges, and policy options* issued by the International Monetary Fund (IMF), (c) *I for impact: Blending Islamic finance and impact investing for the global goals* published by the United Nations Development Programme (UNDP), (d) *Islamic finance: A catalyst for shared prosperity?* issued by the Islamic Development Bank Group, and (e) *Infrastructure financing through Islamic finance in the Islamic countries* published by the Standing Committee for Economic and Commercial Cooperation of the Organization of Islamic Cooperation (COMCEC). Renowned economists, financial experts, market analysts, investment advisers, accounting specialists, business administrators, and other professionals prepared or peer-reviewed the reports.

A researcher's bias may affect the reliability of a study (Saunders et al., 2016). Chenail (2011) recommended researchers use the interviewing the investigator technique

to assess the quality of their interview protocols (see Appendix B). In this approach, a partner of the researcher conducts a mock interview with the latter, who acts as a pseudo participant. The researcher reviews the recorded interview to identify biases and other issues. The researcher then improves the interview questions (see Appendix A) to address the shortcomings (Chenail, 2011). The interviewing the investigator method enhanced the reliability of the data collection process of this study.

Flaws in the interpretation of data can affect the validity of a study (Saunders et al., 2016). Birt et al. (2016) as well as Marshall and Rossman (2016) suggested researchers use the member checking technique to ensure the researcher rightly interpreted the data provided by the participant. In this approach, the researcher interprets the recorded data given by the participant. The researcher shares the interpreted data with the participant for review. The researcher then brings the necessary modifications in agreement with the participant (Birt et al., 2016; Marshall & Rossman, 2016). The member checking technique improved the validity of the data collection process of this study.

Fusch et al. (2018) advised researchers to use the triangulation approach to enhance the depth of the study, improve the trustworthiness of the collected data, promote data saturation, and reduce bias. In this method, researchers use various methods to search and analyze data to check the convergence of the explored data (Denzin, 2009). I used the methodological triangulation technique by comparing the primary data obtained through interviews with the secondary data collected through document review

to verify the convergence of the data sources. The methodological triangulation approach consolidated this study.

Data Collection Technique

Interviews commenced after gaining approval from Walden University's IRB. Doody and Noonan (2013), Saunders et al. (2016), and Yin (2017) stated an interview is the most popular data collection technique and is one of the most important sources of evidence in a qualitative case study. An interview consists of a guided conversation between an interviewer and one or more participants by means of questions and answers (Saunders et al., 2016; Yin, 2017). The objective of conducting an interview was to obtain adequate data to answer the research question based on the experiences of the participants and the researcher's interpretation of the collected data (Doody & Noonan, 2013; Saunders et al., 2016). To obtain enough data, researchers should carry out in-depth interviews using open-ended questions (see Appendix A). A well-prepared interview allows researchers to obtain the required data within the time allocated for the interview (Saunders et al., 2016). To ensure trustworthiness, a suitable interview technique aided in collecting data for this study.

Researchers may use structured, unstructured, and semistructured interview formats. In structured interviews, researchers ask all participants only preset questions in a definite order. Data collection and analysis is simple, but the scope for exploring the data is inadequate for a qualitative study. In unstructured interviews, researchers initially ask participants broad questions and subsequent questions dependent on the responses of

the participants. Researchers can explore the data exhaustively, but the data collection and analysis is complex and time-consuming (Doody & Noonan, 2013).

A semistructured interview is an in-depth interview technique with well-elaborated open-ended questions (see Appendix A), which researchers ask participants to obtain detailed data required for answering the research question (Saunders et al., 2016). Researchers ask predetermined questions (see Appendix A) followed by probing questions (see Appendix A) with the purpose of seeking clarifications (Doody & Noonan, 2013). Rabionet (2011) recommended researchers use the semistructured interview method to focus on data, which will be useful to answer the research question. Primary data was collected by using the semistructured interview technique because this method was more appropriate for this qualitative multiple case study.

Opdenakker (2006) and Saunders et al. (2016) mentioned researchers may conduct electronic interviews using computer technologies via the internet. Researchers may use telecommunication software such as Skype, which enables people located at physically remote locations to hold a live video conversation at locations of their choice. Skype is a *Voice over Internet Protocol* service, which allows researchers to conduct an interview in real-time in a setting similar to a conventional interview (Hanna, 2012).

An electronic semistructured interview technique presents several advantages compared to a conventional semistructured interview approach (Evans, Elford, & Wiggins, 2008; Irvine, 2011; Opdenakker, 2006). Hanna (2012) stated the real-time electronic interview technique is a flexible approach, which allows the researcher to benefit from the advantages of both the face-to-face interview and the telephone

interview methods. Doody and Noonan (2013) as well as Irvine (2011) stated researchers use face-to-face interviews to build a comforting relationship with the participants during the *warm-up* conversation prior to asking questions (see Appendix A). Researchers also use the face-to-face interview technique because, through visual interaction, they can decipher additional information from social cues, such as voice, intonation, and body language of the participants. Researchers using face-to-face interviews may create a comfortable ambiance suitable to stimulate the participation of interviewees (Opdenakker, 2006).

Researchers use telephone interviews to save on time and costs as the investigators do not travel to meet each participant. Researchers using the telephone interview technique may also reschedule the interviews easier in case of emergencies or to suit the ever-shifting agenda of busy participants (Holt, 2010; Wilson, Roe, & Wright, 1998). Researchers use telephone interviews to interact with participants over a wider geographical area and to have access to participants, whom they cannot reach easily or safely (Irvine, 2011; Opdenakker, 2006). Participants in telephone interviews are less prone to bias and provide more objective and frank responses than participants in face-to-face interviews because of the absence of visual interaction between the researcher and the participants (Doody & Noonan, 2013; Irvine, 2011). In comparison to face-to-face interviews, data collected through telephone interviews lack the breadth of coverage and the depth of detail because of the absence of conversation elements inherent to visual interactions, such as breaks and body language (Irvine, 2011).

Skype offers similar advantages to both face-to-face and telephone interviews. The researcher and the participant hold conversations through Skype comfortably at times and places of their choice (Saunders et al., 2016). Skype also allows visual interaction, which is an essential feature of face-to-face interviews and exploits advanced encryption technology to protect the data transfer. Researchers using Skype can also record the interviews without worrying about the audio quality of recordings or battery power levels of recorders used in face-to-face interviews (Hanna, 2012). Electronic interviews also present disadvantages. Researchers may experience technical problems such as faulty webcams (Hanna, 2012) or disruptions in internet access, which may affect the quality of the recordings. Significant time differences between the location of the researcher and that of the participants may also be challenging as the interviews may take place at awkward times (Opdenakker, 2006).

I conducted five semistructured interviews via Skype because I interacted with participants from foreign states located far from my country of residence and there was no plan to travel long distances to conduct face-to-face interviews. To mitigate the issues associated with an electronic interview, I used appropriate computer hardware to ensure optimum performance and kindly requested the participants to do the same before conducting the interviews. The time zone of my country of residence, Mauritius, is close to that of the Middle Eastern countries forming part of the GCC. The average time difference is one hour. The time difference was not a problem for me in conducting the interviews online.

A researcher's bias can affect the reliability of a study (Saunder et al., 2016). Chenail (2011) mentioned investigators usually carry out a pilot study to assess the quality of their interview protocols (see Appendix B) and to identify potential researcher biases. Chenail stated the pilot study method is not practical, possible, or necessary and proposed the interviewing the investigator technique instead. Researchers using this technique assume the role of the participant and a partner conducts the interview while recording. The researchers then review the contents of the recorded interview to identify possible improvements to address issues, such as biases, which may occur while conducting the interviews (Chenail, 2011). After gaining approval from Walden University's IRB, I used the interviewing the investigator approach by participating in a mock interview, which my wife conducted, and recorded the mock interview to identify biases and other issues, and then improved the interview protocol (see Appendix B) to address the flaws observed.

To gain access to participants, emails (see Appendix C) were issued to 30 CEOs of organizations owning construction projects in countries forming part of the GCC. Participants received an informed consent form as an attachment to each invitation email (see Appendix C) to obtain permission to interview them via Skype. The action consisted of informing them of the data collection process, provide them a brief explanation of the analysis of the collected data, tell them their right to withdraw their participation from the study at any time, and notify them about recording the interviews. The data collection and analysis procedures consisted of conducting all interviews and follow-up meetings in English only and performing the transcription using software, instead of hiring the

services of a translator and transcriber, to avoid leakage of identifiable and confidential information. The subsequent step consisted of treating all data the participants provided as confidential, storing all collected primary data safely, and extracting secondary data from reports published by prominent funding agencies.

Saunders et al. (2016) said researchers should prepare an interview protocol (see Appendix B) to collect adequate and detailed data. An interview protocol (see Appendix B) is a practical guide helping the researcher to focus on the collection of useful data during the interview process (Chenail, 2011; Denzin & Lincoln, 2000; Jacob & Furgerson, 2012). An interview protocol (see Appendix B) helps the researcher to organize the interaction with the participants, to ask the right questions (see Appendix A), and to ensure consistency between the interviews (Doody & Noonan, 2013; Saunders et al., 2016). An interview protocol (see Appendix B) introduces the researcher to the participants, explains the objectives and scope of the research and the interview, informs the participants about their rights and the need to give consent, contains the list of interview questions (see Appendix A), and features the concluding remarks (Rabionet, 2011). The interview protocol (see Appendix B) also includes prompts to warn the interviewer to seek informed consent from the participants before starting the interview, keep the interview on track and obtain the required information, notify the respondents the interviewer may contact them to clarify collected information or obtain any additional information, and request the participants to cooperate in the member checking process (Jacob & Furgerson, 2012). Using the interview protocol (see Appendix B) during the

interview process ensured consistency by applying the same approach with each participant.

The participants decided the convenient time to conduct the one-to-one interviews and follow-up meetings outside their working hours. The participants chose a suitable, private, secluded, comfortable, and quiet environment with a closing door outside their place of work to avoid distractions. I also ensured nobody else saw or heard the participants' responses at my location during data collection. Doody and Noonan (2013) as well as Opdenakker (2006) recommended researchers tape-record the interviews and take notes during the interview process. The action was to capture and preserve each participant's conversation via Skype by using a voice recorder application on my smartphone. Important data was noted on a pad. Each interview did not exceed 30 minutes. At the end of the interview, I explained the member checking technique involving a follow-up meeting via Skype conducted at the convenience of each respondent and concluded the interview session with a note of thanks to the participants. Every follow-up member checking meeting lasted less than 20 minutes.

Shortcomings in data interpretation can affect the validity of a study (Saunders et al., 2016). Birt et al. (2016) as well as Marshall and Rossman (2016) suggested researchers use the member checking technique to ensure the researcher rightly interpreted the data provided by the participant by asking the latter to check and validate the interpretations. The action consisted of using the member checking approach during the follow-up meeting to share the interpreted data with every participant for validation, then update the interpretations in collaboration with the participant.

Yin (2017) stated researchers may use multiple sources of evidence to improve the reliability and validity of their study. Yin mentioned researchers can reduce biases by using supporting or contrary evidence from multiple sources. Saunders et al. (2016) recommended researchers use more than one source and one method of data collection to confirm the validity or credibility of the research data, analysis, and interpretation, and suggested researchers collect secondary data to provide additional knowledge or to verify the primary data. Collecting secondary data from reports published by organizations involved in the funding of infrastructure projects, which were relevant to my study, enhanced the depth of understanding of the phenomenon. I retrieved secondary data from the reports published by the WBG, the IMF, the UNDP, the IDB, and the COMCEC. Denzin (2009) mentioned using multiple sources of evidence takes more time and costs higher than using a single source of information. A third source of evidence was not within means because of the limited time to conduct the proposed qualitative multiple case study.

Researchers apply the methodological triangulation technique by using various methods to search and analyze data to check the convergence of the explored data (Denzin, 2009). Fusch et al. (2018) suggested researchers use the methodological triangulation approach to improve the depth of the study, ascertain the validity and reliability of the collected data, promote data saturation, and reduce bias. The action comprised of applying the methodological triangulation method by reviewing secondary data extracted from reports published by prominent organizations involved in the funding

of infrastructure projects to verify the convergence of the primary data collected through the semistructured interviews.

Data Organization Technique

Researchers should protect the anonymity, privacy, and identity of the participants (Rashid et al., 2015). The use of acronym P1 for the first participant, P2 for the second participant, P3 for the third participant, P4 for the fourth participant, and P5 for the fifth participant protected and safeguarded the identities of the participants during and after the study. Yin (2017) recommended researchers organize data efficiently. The data organization plan consisted of saving the recorded audio clip of each semistructured interview as MP3 files AP1, AP2, AP3, AP4, and AP5; the transcript of each interview as Microsoft Word text files TP1, TP2, TP3, TP4, and TP5; and the notes written during each interview as Microsoft Word text files NP1, NP2, NP3, NP4, and NP5. The next step was to save the codes and themes as Microsoft Word text files CTP1, CTP2, CTP3, CTP4, and CTP5.

A *reflective journal* or *audit trail* is a logbook in which the researchers note down all aspects of their study, such as articles they read, discussions they had with stakeholders, and their research ideas and reflections (Saunders et al., 2016; Vicary, Young, & Hicks, 2017). Saunders et al. (2016) recommended researchers keep all records in chronological order. The reflective journal may also include a reflective diary, which is a logbook in which researchers write down all the events and the lessons learned during the research process. The reflective journal may incorporate a research log to keep track of all data pertaining to the literature reviewed, such as the source, database used,

publication date, location, etc. (Saunders et al., 2016). The data organization strategy included keeping a reflective journal with an annexed research log as Microsoft Word text file RJ. The reflective journal featured my research ideas and notes as well as a database of all articles reviewed and reports examined. The database included reference components, such as the names of the authors, publication years, titles, names and locations of editors, volume and issue numbers, pages, and digital object identifiers or source locations.

Researchers should not disclose confidential information provided by the participants (Rashid et al., 2015) and should store all collected data securely to prevent leakage of sensitive information (Novak, 2014; Saunders et al., 2016). The practice was to avoid using the personal information of the participants for any purpose outside of this study by concealing the names of the participants, encrypting confidential information using Microsoft Word software, safeguarding all soft copies of files with a password, saving the files on the fingerprint-secured hard drive of a laptop, and backing up all data on a password-protected external hard disk. Importantly, hard copies of retrieved documents and notes were stored in a locker, keeping the key safely.

De-identified acronyms replaced the participants' names in all physical and electronic files except a password-protected electronic register containing a table linking the acronyms to the personal information on the participants. The plan was to use the personal information only in cases of emergency, such as the occurrence of an inadvertent breach of confidentiality. The strategy to ensure confidentiality also consisted of conducting all interviews and follow-up meetings in English only and performing the

transcription using software, instead of hiring the services of a translator and transcriber, to avoid leakage of identifiable and confidential information. After the follow-up member-checking meetings, the action was to delete all the participants' identifiable information contained in my contact list and history from my email and Skype accounts used for communicating with the participants. In compliance with Walden University's policy, the strategy was to store securely all collected raw data for five years following the end of the study. After that, all stored data locked away and saved on the password-protected computer and external hard disk, including the register, gets destroyed.

Data Analysis

Yin (2017) stated researchers should analyze the collected data to draw conclusions. Yin (2017) mentioned data analysis involves essentially the examination, categorization, tabulation, and testing of data to generate findings. Yin (2016) proposed researchers adopt a five-phased cycle approach to analyze data. Yin (2016) mentioned the five stages of the cycle are: compiling, disassembling, reassembling, interpreting, and concluding. Yin (2016) highlighted the relationships between the phases are recursive and iterative. When researchers reach the reassembling phase, they may realize they need to recompile the database or reassemble the fragments of data differently (Yin, 2016). Yin's method of data analysis ensured a rigorous process in analyzing the collected data.

A database emerged by compiling, sorting, and tabulating the collected data. The collection of primary data involved conducting semistructured interviews via Skype. The collection of secondary data consisted of reviewing publicly-available information in reports published by organizations involved in the funding of infrastructure projects.

Fusch et al. (2018) stated researchers should use the triangulation method to increase the depth of the study, ensure the validity and reliability of data and results, promote the saturation of data, and reduce bias. Baxter and Jack (2008) highlighted triangulation used in the compiling of data is particularly helpful to researchers in verifying the convergence of the dataset and in confirming the validity and reliability of the findings. Methodological triangulation implies using various methods to collect data on a particular research topic and comparing the findings (Denzin, 2009). Using the methodological triangulation technique to analyze the data confirmed the convergence of the two data sources. The findings of the primary data analysis also aligned with the contents of the literature review and the tenets of the conceptual framework.

The next step in data analysis was to disassemble the database into fragments of data and then assign a code to each fragment. Qualitative researchers should code the collected data to identify themes appearing in the interviews and records, for integration and further exploration. A code represents the meaning of the extract of the participant's response (Saunders et al., 2016). For example, coding an extract linked to a project funding issue by highlighting the particular word or phrase using bold, underlined, and red characters was a vital step in data analysis. The same code was then used for all other excerpts of the participant's responses, which had similar meanings to the coded extract. For example, highlighting all extracts related to funding issues using the same bold, underlined, and red characters. For extracts of different meanings, the action was to devise other codes. For example, highlighting all extracts related to project delay using

bold, underlined, and blue characters. The plan involved using *in vivo* codes meaning the codes represented the actual terms the participants used.

The subsequent phase was to reassemble the coded fragments by clustering key ideas to identify themes. Thematic analysis consists of identifying key themes from a coded dataset. Each theme categorizes related codes. Thematic analysis enables researchers to analyze large volumes of qualitative data, to integrate data extracted from transcripts of other interviews, to identify key themes, and to draw conclusions (Saunders et al., 2016). The data analysis strategy consisted of identifying and focusing on key themes by grouping the related codes. For example, all codes related to funding strategies were categorized under the key theme *project funding strategies*. As part of the data analysis, the action was to correlate the key themes with the secondary data as well as the literature and the conceptual framework, which is the modern portfolio theory.

The following stage was to interpret the themes to construct a narrative to give meaning to the reassembled data. Yin (2016) stated the comprehensive interpretation of the reassembled data is the basis to understand the whole study. For example, based on the information provided by the participant, interpretation of the theme *payment delay* was *project owners who systematically fail to pay contractors on time affect the business operations of the contractors significantly, forcing them to terminate their services.*

The last step was to draw conclusions from the thematic analysis. Yin (2016) described a conclusion as an overarching statement or a series of statements, which summarizes the findings of the study to a broader set of ideas. For example, the conclusion from the findings of the study was *the combination of project finance and*

Islamic finance is an innovative and sustainable funding strategy to conclude infrastructure projects successfully. Joslin and Müller (2016) as well as Yin (2017) stated researchers should use the triangulation technique to ascertain the validity of the data analysis process for a case study design and to substantiate findings and conclusions. Baxter and Jack (2008) stated triangulations of data sources, data types, or researchers are essential strategies researchers should use to support their findings and conclusions. The action was to use the methodological triangulation method by comparing the primary data (collected through interviews) with the secondary data (extracted from reports) to validate the data analysis process and corroborate the findings and conclusions.

Maher, Hadfield, Hutchings, and de Eyto (2018) stated researchers may use a computer-assisted qualitative data analysis software (CADQAS) package to store, manage, and analyze qualitative data. NVivo is a popular CADQAS package developed by the Australian firm, QSR. Hoover and Koerber (2011) mentioned most qualitative researchers use NVivo to analyze their collected data easily. ATLAS.ti, another CADQAS product, is more powerful than NVivo but the former is more expensive and more difficult to use than the latter. MAXQA is another CADQAS alternative, which is cheaper but less powerful than NVivo. The latter provides the best balance between ease of use, power, and price (Hoover & Koerber, 2011).

A researcher may input the collected data into NVivo for sorting, transcription, digital coding, and theme analysis (Maher et al., 2018). NVivo processes both document and multimedia files. NVivo is much more efficient for analyzing data than using manual methods. Researchers may customize NVivo to meet their varying needs (Hoover &

Koerber, 2011). The action was to use a trial version of *NVivo 12 (Windows)* because the price of the license was high. The MP3 files MP1, MP2, MP3, MP4, and MP5 were exported to NVivo 12 (Windows) for processing the transcripts as well as for identifying the codes and themes.

Reliability and Validity

Researchers should adopt good quality research processes to mitigate the risk of reporting distorted findings and deriving wrong conclusions (Saunders et al., 2016). A reader can judge the quality of a study by applying specific criteria within a given field. Researchers should understand and use these criteria to ensure their studies meet the quality requirements. Academics term the researcher's efforts in guaranteeing quality as rigor (Heale & Twycross, 2015). A reader may evaluate the quality of a research by assessing its trustworthiness, which is the degree to which other researchers can trust the study. To judge trustworthiness, researchers use the criteria of dependability, credibility, transferability, and confirmability (Korstjens & Moser, 2018).

Yin (2017) stated researchers may use multiple sources of evidence to enhance both the reliability and validity of their studies. Yin mentioned researchers may reduce biases by using supporting or contrary evidence from multiple sources. Saunders et al. (2016) recommended researchers use more than one source and one method of data collection to verify the reliability and validity of the research data, analysis, and interpretation. Denzin (2009) mentioned using various sources of evidence necessitates more time and financial resources than using a single source of information. The research quality strategy consisted of conducting interviews and document reviews as the two

sources and methods of data collection. A third source of evidence was not achievable because of the time and budget constraints to conduct the proposed qualitative multiple case study.

Reliability

To ensure the quality of a study, a researcher must verify the reliability of all the collected data. A study is reliable if a researcher can replicate the study and obtain consistent results (Saunders et al., 2016). For example, if someone reads two scholarly articles on a specific topic, and researchers, who used the same research design, reported similar findings, then the reader may conclude the studies are reliable. Saunders et al. (2016) suggested researchers use the dependability criterion to evaluate the quality of a study. A research is dependable if the findings are stable and consistent over time and under different conditions (Billups, 2014; Korstjens & Moser, 2018). Researchers may address dependability issues by using techniques, such as member checking, transcript review, pilot study, or interviewing the investigator, to corroborate the collected data (Chenail, 2011).

The error or bias of a researcher or participant may affect the reliability of a study (Saunder et al., 2016). Chenail (2011) stated instrumentation rigor and bias management are critical challenges, which qualitative researchers should address when they collect data. Researchers should develop an interview protocol (see Appendix B) to ensure they conduct all interviews consistently and obtain reliable responses (Rabionet, 2011).

Shortcomings in the interpretation of data can also affect the validity of a study (Saunders et al., 2016). Birt et al. (2016) reported the member checking and transcript

review are common methods, which researchers use to validate collected data. Researchers use the member checking technique to ensure the researchers rightly interpreted the collected data (Birt et al., 2016; Marshall & Rossman, 2016). In this method, the researcher interprets the recorded data provided by the participant. The researcher then shares the interpreted data with the participant for verification. The researcher brings the necessary modifications in agreement with the participant (Birt et al., 2016; Marshall & Rossman, 2016). Transcript review consists of recording word-for-word what the participant said and sharing the transcript with the participant for validating the recorded data. The member checking approach is more efficient than the transcript review method (Birt et al., 2016).

Chenail (2011) reported researchers may conduct a pilot study to assess the quality of their interview protocols (see Appendix B) and identify potential researcher biases. Chenail highlighted the pilot study method is not practical, possible, or necessary and proposed the interviewing the investigator technique as an alternative (Chenail, 2011). The researcher using the interviewing the investigator method assumes the role of the participant and a colleague conducts the interview while recording. The researcher then reviews the video of the interview to identify probable enhancements to address issues, such as biases, which may occur while conducting the interviews. The researcher subsequently improves the interview questions (see Appendix A) to address the shortcomings (Chenail, 2011). The research quality plan to ensure the reliability of the study included developing the interview protocol (see Appendix B) as well as using the interviewing the investigator technique and the member checking method. The plan did

not involve a pilot study because participants already had the opportunity to ask clarifying questions during the semistructured interviews.

Validity

Saunders et al. (2016) stated a study is valid if the researcher used appropriate measures, analyzed results accurately, and reported generalized findings. Saunders et al. mentioned factors, which change the participants' perceptions, behaviors, and responses may affect the validity of a study. Researchers may use the credibility, transferability (Saunders et al., 2016) and confirmability (Korstjens & Moser, 2018) criteria to assess the quality of a research work. A study is credible if the findings are truthful and gives a general representation of the phenomenon under exploration (Billups, 2014; Korstjens & Moser, 2018). For example, if someone reads a scholarly article and observes the assumptions and findings appear truthful, as compared to facts and established research, then the reader may infer the study is credible. Researchers may address credibility issues by using techniques, such as member checking, transcript review, and triangulation (Korstjens & Moser, 2018).

A study is transferable if the findings are comparable and other researchers can interpret the findings under similar settings (Billups, 2014; Korstjens & Moser, 2018). For example, if someone reads a scholarly article and finds the author interpreted and applied the findings of a cited research study to his or her own work, the reader may construe the cited research work is transferable. A study is confirmable if other investigators validate the research (Korstjens & Moser, 2018). For example, if someone reads a scholarly article and obtains satisfaction the author clearly explained the findings

of the research study, the reader may conclude the study is confirmable. Researchers may address transferability and confirmability issues by keeping an audit trail, which other researchers may consult (Korstjens & Moser, 2018).

Researchers using the triangulation technique use more than one source or data collection method to confirm the validity or credibility of the research data, analysis, and interpretation (Saunders et al., 2016). Fusch et al. (2018) advised researchers use the triangulation method to increase the depth of the study, ensure the validity and reliability of data and results, promote the saturation of data, and reduce bias. Baxter and Jack (2008) highlighted researchers use the triangulation approach in compiling data to verify the convergence of the dataset as well as attest the validity and reliability of the findings. Joslin and Müller (2016) as well as Yin (2017) stated researchers use the triangulation approach to confirm the validity of the data analysis process for a case study design and substantiate findings and conclusions.

Joslin and Müller (2016) as well as Yin (2017) mentioned four types of triangulation: *data triangulation* (convergence of data sources), *investigator triangulation* (convergence of authors), *theory triangulation* (convergence of philosophies), and methodological triangulation (convergence of methods). Baxter and Jack (2008) stated the triangulation of data sources, data types, or investigators are essential strategies researchers use to support their findings and conclusions. Researchers using the methodological triangulation technique use various methods to search and analyze data to check the consistency and the convergence of the explored data (Denzin, 2009).

Researchers attain data saturation when they have enough information to replicate the study, when it is no longer possible to obtain supplementary information, and when further coding is not possible. A researcher may use the member checking technique to collect detailed data and attain data saturation (Fusch & Ness, 2015). A researcher may also use the methodological triangulation method to increase the depth of the study and reach data saturation (Fusch et al., 2018). The research quality plan to ensure the validity of the study included using the methodological triangulation technique, applying the member checking method, and keeping an audit trail.

Transition and Summary

Section 2 featured a detailed discussion of the various components of the research process. The components included the researcher's role, the participants' characteristics, the research method and design, the population and sampling, the ethical research approach, the data collection instruments and technique, the data organization technique, the data analysis method, and the reliability and validity considerations. The qualitative multiple case study was the most suitable research method and design to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The data collection plan consisted of conducting semistructured interviews via Skype and reviewing official reports. Section 3 refers to the findings, the applications to professional practice, the implications for social change, the recommendations for action and further research, the reflections, and the conclusion.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The objective of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. I collected primary data by conducting semistructured interviews with five business leaders who worked for organizations owning construction projects in GCC states and who successfully applied project funding strategies. The data collection method included inviting potential participants by sending invitation emails (see Appendix C) with attached consent forms. The interviews took place via Skype in private rooms outside the working time and place of the participants. The next step was to conduct follow-up member checking meetings to validate the interpreted data. The interview protocol (see Appendix B) served as a guide during the interviews and follow-up member checking meetings.

I conducted the interviews and the member checking meetings between September 20, 2019, and September 27, 2019. I collected secondary data by reviewing five reports published by the WBG, the IMF, the UNDP, the IDB, and the COMCEC, which are prominent organizations involved in the funding of infrastructure projects. The participants provided useful information, which correlated with the secondary data, the literature review, and the conceptual framework. The subsequent action entailed using Yin's method of data analysis to generate findings and draw conclusions. This section consists of the presentation of findings, the applications to professional practice, the

implications for social change, the recommendations for action, the recommendations for further research, the reflections, and the conclusion.

Presentation of the Findings

The central research question for this study was: What strategies do construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects? I interviewed five business leaders who met the eligibility criteria and asked them questions (see Appendix A) related to project funding strategies of their organizations. The five themes identified were: (a) address project funding issues promptly, (b) select projects with high returns and low risks, (c) use PFM processes to manage project funds, (d) apply a project finance structure for large-scale projects, and (e) implement an Islamic finance scheme for eligible projects. The conceptual framework guiding this study was the MPT. The findings, following the analysis of the primary data collected through semistructured interviews and the triangulation of the primary data with the secondary data extracted via document analysis, corroborated with the conceptual framework and the literature review. The references WBG, IMF, UNDP, IDB, and COMCEC indicate sources of secondary data used in methodological triangulation.

Theme 1: Address Project Funding Issues Promptly

The first theme that emerged from the analyzed data was project owners must address project funding issues promptly to avoid project failures. All the participants stated that delayed or inadequate payments affected the outcomes of their projects, which impacted their organizations. Every interviewee mentioned contractors complained about late or insufficient disbursements from the project owner. P1, P2, and P5 reported they

had to pay penalties to contractors for overdue payments and P5 stated one construction enterprise terminated a contract and claimed indemnities because of the systematic failure of the project owner to pay on time.

Each business leader highlighted payment issues occurred because of the lack of funds during the implementation of the projects. All participants indicated they relied predominantly on credit provided by banks to fund their projects. Every interviewee explained during the construction phase, the project cost increased mainly because of additional works, which the project owners did not specify in the contract. P1, P3, and P4 revealed negotiations with the bankers to provide supplementary finance as well as identifying and securing alternative sources of funds were tedious and lengthy processes. P1, P3, and P4 explained the potential debtors required time to reevaluate the project risks and requested further returns in response to providing additional credit. P1 added the prospective creditors also required supplementary guarantees.

P1, P3, P4, and P5 stated contractors, who did not receive timely payments reacted in various ways, such as demobilizing resources and slowing down the progress of works, suspending the works, or abandoning the project and leaving the site. P1, P3, P4, and P5 reported the contractors then claimed for compensations from the project owners for not complying with the contractual remuneration obligations. P1 and P5 mentioned they had to pay for the additional works as well as penalties for late payments to the contractors for resuming works. P3 and P4 declared the organizational leaders negotiated with the contractors and sought their collaboration to avoid project failures. P3

and P4 used this strategy to avoid paying penalties in the event of temporary disbursement defaults.

P3 and P4 indicated they devised contracts and subscribed to insurance policies to transfer various risks of cost overruns to contractors and insurers, respectively. P3 revealed the organizational leaders negotiated supplementary credit with banks in advance to expedite loan disbursements procedures whenever needed. All business leaders indicated the delayed or insufficient payments to contractors caused significant delays to the conclusion of the infrastructure projects. Every participant emphasized the need to identify the causes of funding issues at the earliest and address the issues without delay to mitigate risks of project failures.

The findings from Theme 1 align with the statements of Ramachandra and Rotimi (2015) as well as Sohi et al. (2016) that payment delays and losses often happen in the construction industry. The results of Theme 1 also corroborate the declarations of COMSEC (2019), IDBG (2016), Nguyen and Chileshe (2015) as well as Sohi et al. (2016), that funding issues are significant causes of project failures. The findings of Theme 1 confirm the assertions of COMSEC, Dybå and Dingsøyr (2015) as well as Holt (2013) that organizations incur significant losses because of failed projects caused by the shortage of funds.

The results of Theme 1 also resonate with the statements of UNDP (2017) and WBG (2019) that project owners need to deliver infrastructure projects rapidly to meet the increasing demands of the growing population. UNDP and WBG then reported that project owners need to find sustainable funds to solve promptly the challenges

encountered during the implementation of the projects. The findings of Theme 1 also align with the conceptual framework, the MPT. Fabozzi and Grant (2001) stated investors request an additional return as a premium to assume higher risks.

Theme 2: Select Projects with High Returns and Low Risks

The second theme that emerged from the analyzed data was infrastructure projects with high returns and low risks attracted funding from creditors, such as banks. All the participants stated that the debtors requested the project owners to demonstrate the projects would generate sufficient returns to pay back the debts. Every interviewee also mentioned the creditors required the project owners to submit a comprehensive risk analysis report and indicate how each party to the contract would manage the project risks competently. P2, P3, and P4 reported the project debtors examined the forecasted project cash flows and risk analysis information submitted by the project owners. P2, P3, and P4 declared the project creditors also performed their own assessments.

Each participant highlighted the potential debtors made their decisions to provide funds based on the anticipated project returns and risks. P1 and P5 also indicated the banks required the project owners to offer guarantees of equivalent value to the debts. P1, P3, P4, and P5 said the proposed debt amounts depended on the expected project returns and risks. P1 and P5 added the security values required by the banks were proportional to the forecasted project returns and risks. P3 and P4 stated prospective financiers offered different debt amounts consistent with their appraisal methods, attitudes towards risks, and marketing strategies. P3 and P4 also reported they selected the funding proposal, which best suited their project financing requirements in terms of debt amount as well as

reimbursement period and flexibility. P4 added the organizational leaders also assessed the ease of access to additional credit in the decision-making process.

All interviewees admitted they experienced difficulties in securing funds from project creditors because they had to compete for scarce financial resources. P1, P3, and P4 mentioned they encountered situations where financial institutions refused to fund their projects because the latter were not confident the projects would be successful. P3 and P4 also declared they declined financing offers from potential project creditors because the debts were too high. P2 and P5 added they denied funding proposals because requested securities were disproportional to the project risks. P2, P3, P4, and P5 revealed they included projects in their portfolio only if the expected project returns were high and stable; and the project risks were foreseeable and tolerable. P3 indicated the organizational leaders sometimes restructured projects to optimize project returns and reduce risks to attract funding.

The findings from Theme 2 resonate with the statements of COMCEC (2019), Garcia-Bernabeu et al. (2015), Gatti (2013), Rezaee (2016), Pinto (2017), and UNDP (2017) that prospective project creditors evaluate technical, financial, and risk analyses to determine the viability of a project. The potential debtors also verify whether the cash flows generated by the project are adequate, stable, and foreseeable. The prospective borrowers then carry out a financial analysis to examine if the estimated cash flows are adequate to repay the debts (COMSEC, 2019; Gatti, 2013). The potential debtors also check if the value of the security is sufficient to mitigate credit risks (COMCEC, 2019; Garcia-Bernabeu et al., 2015; Gatti, 2013).

The results of Theme 2 align with the conceptual framework, the MPT. Blakey (2006a) stated a potential investor evaluates the anticipated returns and risks associated with a venture before making a decision to give a loan. Fabozzi and Grant (2001) as well as Markowitz (1970) also mentioned financiers will fund projects if the expected returns are satisfactory and the risks are within their acceptable range. Markowitz highlighted financiers will finance ventures if the anticipated returns and the associated risk premiums are more attractive than other investment opportunities. dos Santos and Brandi (2017) as well as Grujić (2016) also highlighted some creditors may accept to take a bigger risk to gain a higher return while other creditors may prefer obtaining a lower return against a smaller risk.

Theme 3: Use PFM Processes to Manage Project Funds

The third theme that emerged from the analyzed data was project owners applied PFM approaches for optimizing the administration of project funds. All the participants stated the efficient management of financial resources was essential for ensuring sufficient funding for infrastructure projects during the implementation phase. Every interviewee also mentioned about making the necessary arrangements with creditors to ensure the availability of adequate funds at all times throughout the project execution. Each business leader declared about asking the contractors to provide evidence of their financial standings to ensure the latter had the financial resources necessary to proceed with the works even in cases of momentary inadequate or late payments from the project owner.

All participants indicated they requested contractors to provide performance securities to ensure the latter would not abandon the projects in the event of temporary payment defaults from the project owner. P1, P3, P4, and P5 also reported they requested their project managers to monitor cash flows consistently to identify potential financing issues at an early stage. P3, P4, and P5 highlighted they asked their project managers to report cash flow issues to the project owners for timely actions. P3, P4, and P5 also added they requested their consultants to certify payments on time to avoid contractual claims from contractors.

P3 and P4 stated they applied project management processes, such as time, cost, scope, procurement, and stakeholders' management to mitigate any budget overrun. P3 and P4 also mentioned they developed a risk management plan to manage project risks efficiently. The plan included risks related to project funding and featured actions, which they had to implement if any risk occurred. P4 highlighted a response to a project financing risk consisted of investing corporate capital as a temporary measure to avoid disruptions in the payment schedule

The findings from Theme 3 align with the statements of PMI (2016) that PFM is an essential aspect of project management to address project funding issues in the construction sector. The results of Theme 3 also corroborate the declarations of COMCEC (2019), Holt (2013), IDBG (2016), PMI, and WBG (2019) that project owners should monitor their cash flows competently to ensure they have adequate funds at all times during the project implementation phase. The findings from Theme 3 confirm the assertions of Ramachandra and Rotimi (2015) that the project owners should verify the

financial status of the contractors before the commencement of the works. Ramachandra and Rotimi also stated project owners should request contractors to submit financial securities.

The results of Theme 3 resonate with the declaration of Holt (2013) that contractors should submit their claims on time and project owners pay without delay. The findings of Theme 3 also align with the conceptual framework, the MPT. PFM processes lower project risks (PMI, 2016) and Fabozzi and Grant, Grujić (2016), as well as Markowitz (1970) mentioned financiers will fund a project if the project risks are within their tolerable range.

Theme 4: Apply a Project Finance Structure for Large-Scale Projects

The fourth theme that emerged from the analyzed data was the application of project finance as an innovative strategy to acquire funding for infrastructure projects. P2 and P5 stated they used only the conventional corporate finance method to fund projects. The funds mainly consisted of a combination of long-term bank loans and corporate financial resources. P1, P3, and P4 revealed they utilized a project finance structure to fund large-scale projects. The funds comprised of a mix of equity contributed by the shareholders and long-term loans taken from banks. P3 added the organization also raised financial resources from the sale of bonds on the capital market.

P3 and P4 mentioned they established an SPV exclusively for the project and their organizations became the shareholders of the SPV. The managers of the SPV used the funds solely to pay consultants, contractors, suppliers, and other stakeholders for building the project. After the construction phase, the executives of the SPV used the project cash

flows to remunerate contractors for operating and maintaining the infrastructure, service the debts, and pay dividends to the shareholders. The banks held the project assets as guarantees for the loans.

P3 and P4 highlighted they preferred the project finance structure because of the various advantages associated with the scheme. Their contribution, as shareholders of the SPV, represented no more than 20% to 30% of the project cost. The burden of implementing the projects on the company financial resources was also sustainable. P4 added the proportion of debts was high but the managers of the SPV started reimbursing the credits only after the construction stage. P3 and P4 also declared they assumed fewer risks in a project finance scheme. The banks accepted only the project assets as securities for the loans disbursed. The banks could not have recourse to the shareholders of the SPV in case of project failure. P4 explained the limited liability in a project finance structure was appealing to the shareholders of the organization because any project failure would not have impacted the business performance to a significant extent.

P1, P3, and P4 conceded the project finance structure was more expensive than the corporate finance method. The project owners paid legal and administrative costs for setting up the SPV. The banks also assumed significant risks in a project finance scheme and charged higher rates for providing the debts. P3 and P4 admitted the establishment of the project finance structure was a lengthy process, which delayed the commencement of works.

P3 narrated the organizational leaders had to identify and negotiate with other potential shareholders of the SPV, establish the SPV, and recruit resources for operating

the SPV. The business leaders also had to appoint consultants to prepare and submit comprehensive risk management plans and detailed cash flow forecasts requested by prospective creditors; bargain with potential debt holders on the loan amounts, rates, and repayment options; and make the necessary arrangements to issue bonds on the capital market. P1, P3, and P4 indicated the advantages of a project finance structure, nevertheless, outweighed its drawbacks. P3 and P4 recommended to consider a project finance structure only for large-scale projects. The two participants declared a project finance scheme would not be cost-effective for small-scale projects.

The findings from Theme 4 align with the statements of Ahmed (2015), COMCEC (2019), Gatti (2013), Pinto (2017), and WBG (2019) that creditors in a project finance scheme assume higher risks, hold the assets of the project as security, and rely on the project's cash flow for the loan repayment. The results of Theme 4 also corroborate the declaration of COMCEC (2019), IDBG (2016), Lübbe (2016), and WBG (2019) that a project finance structure relieves pressure on corporate finances. The findings from Theme 4 confirm the assertions of COMCEC, Garcia-Bernabeu et al. (2015), Gatti, Lübbe, Magni (2015), and WBG that the SPV is financially and legally independent from the shareholders and the project debtors have no recourse to the individual project owners in case of project failures.

The results of Theme 4 resonate with the statement of COMCEC (2019) and Gatti (2013) that the managers of the SPV make arrangements with the creditors to begin reimbursing the loans when the project generates revenues. The findings from Theme 4 also align with the declarations of COMCEC (2019), Garcia-Bernabeu et al. (2015),

Gatti, and Rezaee (2016) that project debtors ensure the managers of the SPV manage project risks competently. The results of Theme 4 corroborate the declaration of COMCEC (2019) and Lasa et al. (2016) that the managers of the SPV must demonstrate adequate cash flows to refund the project loan and pay dividends.

The findings from Theme 4 confirm the assertions of COMCEC (2019), Garcia-Bernabeu et al. (2015), Gatti (2013), and Martin et al. (2014) that a project finance structure is more expensive than conventional corporate finance scheme. The results of Theme 4 also align with the conceptual framework, the MPT. Fabozzi and Grant (2001) stated investors request a higher return as a premium for assuming greater risks. Fabozzi and Grant, Grujić (2016), and Markowitz (1970) also mentioned investors will fund a project if the project risks are within their tolerable range.

Theme 5: Implement an Islamic Finance Scheme for Eligible Projects

The fifth theme that emerged from the analyzed data was the utilization of Islamic finance as a strategy to secure sustainable funding for infrastructure projects. P1 and P2 stated they used a traditional finance method to fund projects. The method consisted of taking out a long-term loan from a conventional bank, and paying back the capital and interest. P1 used only the conventional method whereas P2 also used an Islamic finance scheme. P3, P4, and P5 mentioned they used only the Islamic finance approach to fund projects. The approach entailed borrowing capital from an Islamic bank and sharing returns and risks with the bank based on the principle of profit and loss. P3 added the organization also acquired funds by issuing sukuks on the capital market.

P1 explained the organization developed properties partially leased to hotels selling alcoholic beverages and operating casinos. These activities are prohibited under sharia and P1 could not have access to any Islamic finance product. P2 implemented projects, which were sharia-compliant as well as projects, which did not meet the requirements of Islamic law. P2 took out conventional loans to fund projects, which were not sharia-compliant, such as malls with retail spaces leased to restaurants selling alcoholic drinks and shops dealing with tobacco products. P2 used Islamic finance schemes to fund projects, which conformed to sharia, such as residential complexes. P3, P4, and P5 declared they implemented only sharia-compliant projects and could apply for funding from Islamic banks or raise financial resources from Islamic capital markets.

P2 and P5 reported they used the murabahah financial instrument. The Islamic bankers funded the construction of the projects and became the owners. The Islamic bankers then sold the projects to P2 and P5 at prices based on the construction costs and predetermined mark ups. P2 and P5 reimbursed the Islamic banks by installments according to mutually-agreed terms and conditions. P3 and P4 narrated they used the mudharaba financial model. The Islamic bankers entered a partnership with P3 and P4 for a jointly-agreed duration. The Islamic bankers financed the projects while P3 and P4 managed the projects. P3 and P4 then shared the profits generated by the projects with the Islamic banks according to predetermined ratios specified in the partnership contract. P3 also used sukuk financial instruments to raise capital during the construction phase. P3 bought back the asset-backed sukuks using the diminishing musharaka model during the operation stage when the project generated revenues.

P4 and P5 indicated they used an Islamic finance structure because the shareholders of their organizations favored the application of a funding scheme, which was compatible with their Muslim faith. P5 added a board of Islamic scholars reviewed every investment decision of the organization and it was the corporate policy to use Islamic financing only. P3 and P4 said they used an Islamic finance approach to gain access to the significant financial resources held by Islamic banks in the oil-rich GCC states. P4 highlighted the organization preferred having bankers as active business partners rather than passive creditors.

P2 and P5 stated they provided guarantees to the Islamic banks to secure the funds. The Islamic banks could only seize the guarantees if the projects failed because of the negligence or illicit acts of P2 or P5. The latter admitted they did not encounter situations where the Islamic banks confiscated their guarantees. P3 and P4 mentioned the Islamic bankers did not require them to provide any guarantee because the banks owned the project assets during the partnership under an Islamic project finance model. P3 and P4 explained in case of project failure, only the Islamic bankers would have assumed the losses. P4 reported an Islamic bank accepted its share of the actual profit though significantly less than the forecasted profit for a particular infrastructure project in accordance with the principle of profit and loss.

P2 stated the procedures to obtain funds from an Islamic bank were more complicated and time-consuming compared to processes involved in taking out a loan from a conventional bank. P2 also declared some banks requested the project owner to provide assets as guarantees for the debts, which was against the profit and loss principle

of Islamic finance. P2 criticized the lack of regularization of the sharia boards. The project stakeholders had different views of Islamic commercial law. For example, P2 mentioned a situation where an Islamic bank considered a project did not meet the sharia requirements while another Islamic financial institution regarded the same project as sharia-compliant. P2 admitted the organizational leaders still preferred the Islamic finance model for implementing sharia-compliant projects because of the risk-sharing concept.

The findings from Theme 5 align with the statements of COMCEC (2019), IDBG (2016), IMF (2015), Khediri et al. (2015), Rudnyckyj (2014), Salman and Nawaz (2018), UNDP (2017) as well as WBG (2019) that projects, involving activities prohibited by sharia, are not eligible for funding under an Islamic finance scheme. The results of Theme 5 also corroborate the declarations of COMCEC, Duncan et al. (2004), IDBG, IMF, Kabir and Soumaré (2015), Lakis and Baltušytė (2017), Salman and Nawaz, UNDP as well as WBG that in a murabahah financial model, the project creditor funds the project and the project owner reimburse the project costs plus a predetermined profit. The findings from Theme 5 confirm the assertions of COMCEC, Duncan et al., IDBG, IMF, Lakis and Baltušytė (2017), Rudnyckyj (2014), Salman and Nawaz, UNDP as well as WBG that in a mudharaba financing scheme, the project creditor shares profits with the project owner and assumes all losses. COMCEC, IDBG, IMF, Shaikh (2017), and UNDP also said the Islamic banker does not require the project owner to provide a security in a mudharaba structure. Shaikh mentioned the mudharaba model is suitable for an Islamic project finance arrangement.

The results of Theme 5 resonate with the statements of COMCEC (2019), Duncan et al. (2004), IDBG (2016), IMF (2015), Kabir and Soumaré (2015), Sillah (2018), UNDP (2017) as well as WBG (2019) that project owners may raise capital to fund a project by using the sukuk financial instrument. The findings from Theme 5 also align with the statements of COMCEC, IDBG, IMF, Lakis and Baltušytė (2017), Kabir and Soumaré, Shaikh (2017), UNDP as well as WBG that Islamic bankers enforce a collateral only in case the project fails because of fraud, gross negligence, or misconduct of the project owner. The results of Theme 5 also corroborate the declarations of COMCEC, IDBG, IMF, Rudnyckyj (2014), UNDP, and WBG that there is a lack of consensus among Islamic scholars regarding Islamic jurisprudence and Islamic commercial law.

The findings from Theme 5 confirm the assertion of Ahmed (2015), COMCEC (2019), IDBG (2016), and IMF (2015) that abundant Islamic financial resources are available because of the high liquidity generated from the oil revenues in Middle Eastern countries. The results of Theme 5 also resonate with the statement of COMCEC, IDBG, IMF, Shaikh (2017), UNDP (2017), and WBG (2019) that the Islamic financier will accept to share actual profits less than the predicted profits. The results of Theme 5 corroborate with the recommendation of COMCEC and Sillah (2018) to integrate the asset-based sukuks in the Islamic project finance scheme. Sillah declared the project owner may buy back the bonds from the sukuk holders using the diminishing musharaka principle.

The findings of Theme 5 also confirm the assertion of COMCEC (2019), IDBG (2016), IMF (2015), Lakis and Baltušytė (2017), UNDP (2017) as well as WBG (2019)

that Islamic financiers participate in the project as business partners rather than creditors. The results of Theme 5 align with the conceptual framework, the MPT. Fabozzi and Grant (2001), Grujić (2016), and Markowitz (1970) stated investors will consider a project if the expected returns are attractive and the risks are within their acceptable range. Fabozzi and Grant also mentioned investors ask for a higher return as a premium for accepting greater risks.

Applications to Professional Practice

Infrastructural developments sustain the economy of a country and generate considerable revenues for construction organizations (Lübbe (2016). A thriving construction industry may also benefit dependent enterprises, such as manufacturers of materials, wholesale traders, local suppliers, and insurance companies (States News Service, 2016). Construction business leaders require funds to execute infrastructure projects successfully. Financial resources are scarce and many construction project owners experience setbacks during the implementation of infrastructure projects because of inadequate funding (Javed & Fida, 2015). Project participants, comprising mainly of contractors, consultants, and suppliers, may frequently obtain late, inadequate, or even nil payments (Ramachandra & Rotimi, 2015).

The funding issues adversely affect the business operations of the project participants to a significant level, compelling them to terminate their services under their respective contracts to limit financial losses or avoid bankruptcy (Dybå & Dingsøyr, 2015; Holt, 2013). The shortage of funds for executing infrastructure projects is a significant cause of project failures, which afflict the construction sector (Nguyen &

Chileshe, 2015). Persistent failures in the implementation of infrastructure projects may result in a relentless socioeconomic crisis because the construction sector contributes significantly to the economic growth of a country (Zawawi et al., 2014). The primary problem is some business leaders in the construction industry lack strategies to acquire sufficient funding (Sohi et al., 2016).

The purpose of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The findings of this research may prove valuable to construction business leaders. The results of the study confirmed infrastructure project funding issues are significant causes of project failures and business leaders must solve the issues competently by applying appropriate strategies. The strategies proposed in this study are: (a) address project funding issues promptly, (b) select projects with high returns and low risks, (c) use PFM processes to manage project funds, (d) apply a project finance structure for large-scale projects, and (e) implement an Islamic finance scheme for eligible projects.

Business leaders in the construction industry may apply the strategies identified in this study to acquire adequate funding for implementing their projects. The findings of this research may thus benefit the construction industry by helping project owners to lower the rate of project failures attributable to insufficient funds. Through the application of the recommended strategies, construction project owners may also secure adequate funds to remunerate contractors, consultants, suppliers, and other stakeholders on time. Punctual payments may result in the successful executions of projects, enhance

profitability for businesses, and bring stability to the construction sector. I will share the strategies with the business leaders, who participated in this research in the form of a concise document. The participants may then assess the suitability of any strategy proposed in the document. The participants may apply whichever strategy they deem fit to improve the project success rates of their organizations.

Implications for Social Change

Infrastructure, such as buildings, roads, bridges, railways, airports, harbors, dams, water supply networks, sewerage treatment plants, etc. benefit the communities who use the facilities. Infrastructural developments also support economic growth, which positively impacts social well-being. In an improved economy, the government has more financial resources to spend on measures to alleviate poverty, reduce social inequalities, and enhance human capital development (Lübbe (2016). Construction business leaders need funds to execute infrastructure projects successfully; however, funds are scarce, and many construction project owners experience financial difficulties during the project implementation (Javed & Fida, 2015). Shortage of funds may result in infrastructure project failures (Nguyen & Chileshe, 2015), which may adversely impact the well-being of communities. Business leaders may bring positive social change by concluding infrastructure projects successfully.

The implementation of strategies identified in this study may help construction project owners to secure funding for the successful conclusion of infrastructure projects. A successfully concluded infrastructure project may prove valuable to communities, as mentioned above and bring stability to the construction industry. A stable building sector

implies sufficient incomes for project owners, contractors, consultants, and suppliers, who may then contribute significantly to the gross domestic product and support economic growth, which may benefit the whole population. A vibrant construction industry in a vigorous economy may ensure higher job security and improved working conditions for people employed by construction businesses as well as higher standards of living for their families.

Project owners also have the moral obligation to plan, construct, operate, and maintain infrastructure, which meet economic as well as social and environmental objectives (Lu et al., 2015). Project owners traditionally focused on maximizing the profitability of projects; nowadays, they also value projects, which are ethical, socially responsible, and eco-friendly (Wins & Zwergel, 2016). Project owners may also enhance the acceptance of their projects by stakeholders and improve the project success rates by marketing the social and environmental goals of their projects (Szabó, 2016). For example, a project owner constructing a recreational park near a village may build a training school for the dwellers. The project owner may also implement the necessary measures to mitigate adverse ecological impacts by using environmentally-friendly construction materials and techniques. Project owners may apply the strategies identified in this study to secure adequate funding to implement sustainable and resilient infrastructure projects and provide social as well as environmental benefits to communities.

Recommendations for Action

The purpose of this qualitative multiple case study was to explore strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. I explored strategies by conducting interviews, performing document analysis, reviewing professional and academic literature, and using a suitable conceptual framework. The business leaders who participated in the interviews provided valuable information, which correlated with the secondary data, the literature review, and the conceptual framework. I recommend construction project owners apply the five strategies, as listed below, to secure sustainable funding for their infrastructure projects. I intend to submit this qualitative multiple case study to business and management databases for publication to allow construction business leaders to review and apply the recommended strategies.

Strategy 1: Address project funding issues promptly

The construction business leaders, who participated in the study, stated they had to seek additional funding to pay for cost overruns. Project owners may avoid contract price increases by identifying underlying factors at an early stage of the project and taking the necessary remedial actions promptly. Project owners may also devise contracts or use hedging techniques to transfer price increase risks to contractors or insurers, respectively.

The interviewees also reported the quest for additional funding was a tedious and lengthy process, which further delayed payments to consultants, contractors, and suppliers. Project owners may negotiate additional credit in advance and mobilize the

supplementary financial resources whenever required. Project owners may also negotiate with the relevant stakeholders and seek their collaboration to avoid paying penalties in case of temporary payment defaults.

Strategy 2: Select projects with high returns and low risks

The participants mentioned projects with expected high returns and low risks attracted cost-effective funding. Project owners should identify and include only projects with anticipated high returns and low risks in their investment portfolios. Otherwise, the project owners should reform essential projects to improve the rates of return and reduce the associated risks.

The project owners should request their financial experts to prepare expected cash flows to verify if the projects would generate sufficient revenues to reimburse the debts. The project owners should also ask their project managers to prepare a detailed risk analysis report to indicate the allocation of risks to various stakeholders and to check if the proposed allocation is optimal. The project owners should submit the expected project returns and risk reports to the funding agency to demonstrate the creditworthiness of their projects.

Strategy 3: Use PFM processes to manage project funds

The business leaders interviewed recommended the application of PFM processes to manage project funds efficiently. Project owners may use various techniques, such as ensuring creditors disburse the required funds prior to the commencement of works. Project owners may also ask their contractors to submit their financial standings and then

verify whether the latter have sufficient financial resources to proceed with the construction works even during momentary payment disruptions.

Project owners may request contractors to submit performance securities to mitigate the risks of contractors abandoning the works in cases of temporary payment defaults. Project owners may also ask their consultants to monitor cash flows and report issues promptly for corrective actions as well as certify payments on time to avoid contractual claims. Project owners may request their project managers to prepare and implement risk management plans to mitigate project risks and respond appropriately to any risk occurrence.

Strategy 4: Apply a project finance structure for large-scale projects

Most participants recommended the application of a project finance structure for implementing large-scale projects. By using a project finance scheme, project owners contribute a significantly reduced amount of corporate financial resources and begin reimbursing credit after the construction of the projects. The project owners also assume fewer risks because the banks hold only the project assets as securities and the latter cannot have recourse or have limited recourse to the project owners in case of project failures. A project finance structure is not appropriate for small-scale projects because of the cost and time implications.

Project owners may apply the SIPF framework, as proposed by Lu et al. (2015). The project owners may commit in the SIPF structure to pay performance-based bonuses to the contractors for designing, constructing, operating and maintaining sustainable infrastructure as well as providing satisfactory services that meet the expectations of

users. This incentive may motivate contractors to bring positive social change by improving the wellbeing of communities.

Strategy 5: Implement an Islamic finance scheme for eligible projects

Most participants endorsed the implementation of an Islamic finance scheme for executing eligible projects. Project owners who promote sharia-compliant projects may use Islamic finance to fund their projects. Project owners may apply an Islamic finance model to gain access to the significant liquidity held by Islamic banks and to circumvent the provision of securities. Project owners may use the mudharaba financial model in conjunction with a project finance scheme to benefit from both funding methods. Project owners may also raise additional funds by selling project asset-backed sukuks on the capital market. Project owners implementing large-scale sharia-compliant infrastructure projects may apply an Islamic project finance model to take advantage of transferring all risks of losses to the creditors in case of project failures.

To address issues related to Islamic finance, governments hoping to expand the market of the funding scheme in their countries should set up a strong legal framework to ensure transparency, protect investors in cases of insolvency, and help to resolve disputes (Ahmed, 2015; Javed & Fida, 2015). Governments should also establish an official sharia council and specify financial standards to which Islamic financial institutions must comply (COMCEC, 2019; IDBG, 2016; IMF, 2015; Lakis & Baltušytė, 2017; UNDP, 2017; WBG, 2019).

Recommendations for Further Research

I conducted a qualitative multiple case study on strategies project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The population for the research consisted of five business leaders, who were conversant with successful project funding strategies and worked for distinct organizations owning construction projects in a GCC state. The study is limited to the small size of five cases, the geographical location of the GCC countries, and the qualitative multiple case research method and design. The strategies identified in the study are specific to the research limitations and may not be applicable in other settings.

The research revealed Islamic project finance is a successful project funding strategy. Among the five cases studied, only two participants provided useful data on the Islamic project finance scheme. I recommend conducting further research on the applications of the Islamic project finance strategy to professional practice and the implications of this funding technique for positive social change.

To generalize the findings of the study, future researchers may increase the number of participants, choose different geographical locations, and use a quantitative correlation research method. For example, a researcher may investigate 25 cases, interview business leaders working in organizations owning construction projects located in Europe or North America and conduct a quantitative correlation study to test the relationship between securing sustainable funding and the successful conclusion of infrastructure projects. Other hypotheses include the themes identified in this study.

Exploring infrastructure project funding strategies identified in various settings will extend the body of knowledge on the research topic.

Reflections

In this study, I explored strategies to secure sustainable funding for the successful conclusion of infrastructure projects. I collected primary data through interviews and secondary data through document analysis, reviewed professional and academic literature, as well as identified and applied an appropriate conceptual framework. I used the interviewing the investigator, member checking, and methodological triangulation techniques to mitigate bias. I also used an interview protocol (see Appendix B) to ensure consistency in collecting good quality data and guide the interview procedure. Conducting the doctoral study was a rewarding experience because I learned how to conduct ethical doctoral research and write in an academic style. I also had limited prior knowledge or experience in infrastructure project funding and I significantly enhanced my knowledge on the research topic.

I learned about the economic and social importance of investing in infrastructure projects, the challenges encountered by project owners in financing infrastructure projects, strategies to address funding challenges, and the prospect of using Islamic project finance as an innovative and sustainable strategy for funding infrastructure projects. I also identified and analyzed valuable strategies to secure sustainable funding, such as solving project financing issues promptly, selecting projects with high returns and low risks, using PFM processes to manage project funds efficiently, applying a project finance structure to fund large-scale projects, implementing an Islamic finance scheme to

fund eligible projects, and considering the Islamic project finance model to fund eligible large-scale projects.

The recruitment process was very tedious with only five participants responding to 30 invitations sent by email (see Appendix C). I targeted CEOs who met the eligibility criteria and spoke English. All participants were collaborative, and a CEO was particularly supportive and helped me in identifying and inviting additional eligible interviewees, using the snowball sampling method. The data collection and analysis processes were simpler and faster than expected because I conducted interviews via Skype, and I used software for data analysis.

Conclusion

Construction project owners need to implement infrastructure projects to support economic growth and achieve social objectives. Lack of funds may jeopardize the successful completion of infrastructure projects and cause project stakeholders to lose profits. The purpose of this qualitative multiple case study was to explore sustainable strategies construction project owners use for the successful conclusion of infrastructure projects. I identified strategies by exploring data collected through interviews and document analysis, reviewing professional and academic literature, and using the MPT conceptual framework.

Findings from this research confirmed inadequate funds were significant causes of project failures and project owners must address funding issues promptly. The results of this study also indicated projects with high returns and low risks attracted funding. Findings from this research showed PFM processes helped project owners to optimize the

management of project funds. The results of the study also revealed a project finance structure was suitable for funding complex projects. The findings of this research proved Islamic finance was a suitable alternative for funding eligible projects. Project owners should also consider Islamic project finance for funding eligible large-scale projects. Construction business leaders may apply the strategies recommended in this study to gain access to sustainable funding for improving the success rates of infrastructure projects.

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Appendix A: Interview Questions

A. INTERVIEW QUESTIONS

The interview questions are as follows:

Preliminary Questions:

1. What is your age?
2. What is your nationality?
3. What are your credentials?
4. How many years of experience do you have as a business leader?
5. How long are you working in your current organization?
6. What are your primary duties and responsibilities in your organization?

Strategic Research Questions:

1. How have delayed or insufficient payments affected the outcome of your project and impacted your business?
2. What strategies did you find worked best to secure sustainable funding for the effective conclusion of your infrastructure projects?
3. How do you arrange payments to complete a project?
4. How did you assess the effectiveness of your strategies for securing sustainable funding for your infrastructure projects?
5. What were the key barriers to implementing your organization's successful strategies for securing sustainable funding for your infrastructure projects?

6. How did your organizational leaders overcome the key barriers to applying your organization's successful strategies for securing sustainable funding for your infrastructure projects?

Follow-on Question:

1. With reference to your reply to the second question regarding funding strategies, did you implement a solution based on the principles of Islamic project finance and if yes, have you observed if Islamic project finance is a sustainable strategy to fund infrastructure projects successfully?

Wrap-up Question:

1. What additional information can you provide to help me understand the strategies your organization uses to secure sustainable funding for the successful conclusion of infrastructure projects?

B. MEMBER CHECKING MEETING

I will go through each interview question and read the corresponding interpreted answer to the participants. After reading each interpreted response, I will ask the following questions:

Member Checking Questions:

1. Did I miss anything?
2. Would you like to add something?

Appendix B: Interview Protocol

I will conduct the interviews via Skype using the following protocol:

1. I will interact with the prospective participants once I obtain their contact information to check if they meet the eligibility criteria. Potential participants may only take part in the study if they meet the following eligibility criteria:
    i. The prospective participants should work for organizations owning construction projects in countries forming part of the Gulf Cooperation Council,
    ii. The business leaders of the organizations should have successfully implemented project funding strategies,
    iii. The potential participants should be at least 18 years old and should be conversant with the successful project funding strategies.
2. I will check the eligibility criteria by asking the following questions to the prospective participants:
    i. What is your date of birth?
    ii. Where do you work and for how long you have been working at that organization?
    iii. What are your roles and responsibilities in the organization?
    iv. Are you conversant with the project funding strategies of your organization?

3. I will schedule the date and time of the interviews at the convenience of the participants. I will request them to attend the interviews and follow-up meetings outside their working time.
4. I will ask the participants to find a suitable, private, comfortable, and quiet environment with a closing door outside their place of work to ensure privacy and avoid distractions during the interviews and follow-up member checking meetings.
5. I will ensure nobody can hear or see the participants' responses at my location during data collection.
6. I will agree with the participants on the mode of communication (email, Messenger, WhatsApp, etc. programs, which must feature end-to-end encryption for added security).
7. I will request the participants not to disclose their participation in the study to protect their identities.
8. I will give the opportunity to the participants to ask any question they wish concerning their participation in the study.
9. On the interview day, I will build trust between the participants and me to ease the interview process by holding a brief conversation with the participants about the weather, family, and work.
10. I will introduce the interview, and I will present an overview of the research topic.
11. I will explain the purpose and scope of the study.
12. I will justify the intended use of the collected data.

13. I will thank the participants for accepting to take part in the study voluntarily.
14. I will inform the participants of their rights to withdraw from the study or to stop the interview/follow-up member checking meeting at any time or to refuse to answer some or all questions without any adverse consequence for them.
15. I will reassure the participants I will not reveal their identities, and I will keep all collected information confidential.
16. I will warn the participants I will record the interview.
17. I record the interview by using the voice recorder application on my smartphone.
18. I will announce the participants' identifying codes as well as the dates and the times of the interviews.
19. I will ask the preliminary questions, followed by the research questions, the follow-on question, and the wrap-up question:
    - **Preliminary Questions:**
        i. What is your age?
        ii. What is your nationality?
        iii. What are your credentials?
        iv. How many years of experience do you have as a business leader?
        v. How long are you working in your current organization?
        vi. What are your primary duties and responsibilities in your organization?
    - **Strategic Research Questions:**
        i. How have delayed or insufficient payments affected the outcome of your project and impacted your business?

ii. What strategies did you find worked best to secure sustainable funding for the effective conclusion of your infrastructure projects?

iii. How do you arrange payments to complete a project?

iv. How did you assess the effectiveness of your strategies for securing sustainable funding for your infrastructure projects?

v. What were the key barriers to implementing your organization's successful strategies for securing sustainable funding for your infrastructure projects?

vi. How did your organizational leaders overcome the key barriers to applying your organization's successful strategies for securing sustainable funding for your infrastructure projects?

- **Follow-on Question:**

  i. With reference to your reply to the second question regarding funding strategies, did you implement a solution based on the principles of Islamic project finance and if yes, have you observed if Islamic project finance is a sustainable strategy to fund infrastructure projects successfully?

- **Wrap-up Question:**

  i. What additional information can you provide to help me understand the strategies your organization uses to secure sustainable funding for the successful conclusion of infrastructure projects?

20. I will use long pauses if the participants' answers lack details to indicate I expect more information.

21. If the participants provide recurring long answers and deviate widely from the focus of the interview, I will redirect the attention of the interviewees by politely interrupting them. I will refer back to a previous relevant statement to ask for additional information. I will focus on data, which are pertinent to my study.
22. If the participants start to ask questions during the interview, I will politely invite them to ask any question after the interview.
23. If the participants start to criticize my study during the interview, I will kindly inform them I will reply to their challenges after the interview.
24. The interview will last approximately 30 minutes to obtain responses for the eight interview questions (six strategic research questions, one follow-on question, and one wrap-up question). I will give the participants adequate time to respond to each question.
25. I will explain the member checking technique and invite each participant to attend a follow-up meeting for validating the interpreted data. I will schedule a date and time for the follow-up meeting.
26. I will conclude the interview session with a note of thanks to each participant.
27. I will conduct the follow-up meeting via Skype as follows:
    i. I will share a synthesis and interpretation of the response to each research question by email to each participant before conducting the follow-up meeting.
    ii. I will introduce the follow-up meeting, which will not exceed 30 minutes.
    iii. I will explain the need to perform the member checking process.

iv. I will go through each interview question and read the corresponding interpreted answer.

v. After reading each interpreted response, I will ask the participants if I missed something or if they would like to add further details.

vi. I will wrap up the follow-up meeting by thanking each participant.

Appendix C: Invitation Email

To: The Chief Executive Officer

Dear Sir/Madam,

I am a doctoral student at Walden University, Minneapolis, MN, USA. In partial fulfillment of the requirements for the award of a Doctor of Business Administration (DBA) degree, I am conducting a study on success strategies for construction projects in Gulf Cooperation Council (GCC) countries, with a focus on Islamic project finance. The objective of my research is to explore the strategies construction project owners use to secure sustainable funding for the successful conclusion of infrastructure projects. The findings of my study may benefit the construction industry by helping project owners to lower the rate of project failures attributable to inadequate funds.

I wish to explore your project success strategies because you implemented construction projects in a GCC state, and you applied successful schemes to fund your construction projects. I am inviting you to participate in the research by attending a one-to-one interview and a follow-up meeting via Skype. I will share my research findings and conclusions on project success strategies with you upon completion of the study in the form of a concise document.

If you decide to participate in my research, kindly read the informed consent form attached to this email. The consent form includes a brief overview of the study and outlines the rights of the participant. If you accept the conditions mentioned in the consent form, kindly confirm your participation by replying to this email by stating the

words *I consent.* If you wish to obtain any additional information, please do not hesitate to contact me via email.

Thanking you for your time,

Sincerely,

Ibrahim Adia

DBA Student

Walden University