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# Strategies for Improving Labor Productivity in Construction Companies

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# Walden University

College of Management and Technology

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2017

Abstract

Strategies for Improving Labor Productivity in Construction Companies

by

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MS, University of Liverpool, 2013

AD, Ethiopian Civil Service College, 1994

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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## Abstract

Even with advanced technology and new project management methodologies, construction company leaders continue to face challenges to improve labor productivity. This multiple case study was an exploration of the strategies that construction company leaders use to improve labor productivity in Doha, Qatar. The case population consisted of 6 construction company leaders operating in Doha, Qatar, who successfully identified and implemented strategies to improve labor productivity. The conceptual framework for this study was the expectancy theory. The data collection process included semistructured interviews and company documentation. Data were compiled and organized, disassembled into fragments, reassembled into a sequence of groups, and interpreted for meaning. Methodological triangulation and member checking bolstered the trustworthiness of those interpretations. Five themes emerged from these 6 construction company leaders: exploring, identifying, and evaluating issues affecting labor productivity; applying an appropriate leadership style; motivating the workforce; providing training and development; and implementing effective project management processes. By improving labor productivity, similar construction companies can complete construction projects faster and with lower construction costs. The implications for positive social change include the potential to lower construction costs and enable individuals with lower incomes in Doha, Qatar, to afford houses that they could not previously afford.

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## Dedication

I thank God for giving me the inspiration and strength to complete this extremely challenging, yet rewarding journey. I dedicate this research to Adiel and Batya. I believe, we can achieve greater things than ever before.

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## Section 1: Foundation of the Study

### **Background of the Problem**

The construction business remains labor-intensive, even with technological advancements in the industry (Jarkas, Radosavljevic, & Wuyi, 2014). Labor productivity is one of the significant parameters by which experts measure performance in the construction industry (Choi, Haque, Lee, Cho, & Kwak, 2013). Even with increased interest in improving labor productivity in the construction sector, researchers have recognized that the issues that affect labor productivity have yet to be fully identified (Jurf & Beheiry, 2012). Some scholars (Jarkas, Kadri, & Younes, 2014) have identified deficiencies such as inappropriate recommendations and the absence of clear strategies for improving the performance of the construction industry workforce.

Workforce productivity is of particular concern for construction companies in Qatar, which will host the 2022 Federation Internationale de Football Association (FIFA) World Cup (Jurf & Beheiry, 2012). To prepare for this event, the country will have to invest billions of dollars in new construction, and Qatar construction leaders must complete the new construction on a very aggressive schedule (Jurf & Beheiry, 2012). If the city of Doha is to meet its construction goals, stakeholders of all types will need to take steps to ensure that they create environments that invite maximum levels of labor productivity.

### **Problem Statement**

Workforce performance is an indicator of a construction company's competitiveness and success (Jarkas, Kadri, et al., 2014). Eighty two percent of

construction company leaders in Qatar believe that poor labor productivity is one of the primary reasons why construction projects in Qatar exceeded their anticipated budgets and schedules (Jarkas & Haupt, 2015). The general business problem was that some construction company leaders were unable to manage effectively the workforce, which resulted in a loss of labor productivity. The specific business problem was that some construction company leaders in Doha, Qatar lacked strategies to improve labor productivity.

### **Purpose Statement**

The purpose of this qualitative multiple-case study was to explore strategies construction company leaders used to improve labor productivity in Doha, Qatar. The targeted population included the leaders of six construction companies who successfully identified and implemented strategies to improve labor productivity in Doha, Qatar. The community of Doha, Qatar, will benefit from this study because improving labor productivity can increase construction company performance, enabling the companies to complete projects faster and with less construction cost. Investors who benefit from completing construction projects ahead of schedule and at lower cost could decide to maintain the same return on their investments, leading to a reduction in the price of newly developed properties. In turn, more individuals with lower incomes can afford buying houses. Given that shelter is a basic need (Syrjala, Leipamaa-Leskinen, & Laaksonen, 2015), enabling low-income citizens access to affordable shelter can produce positive social change.

### **Nature of the Study**

I used a qualitative research method and explored the strategies that construction company leaders used to improve labor productivity. The qualitative method was appropriate for the study because a qualitative approach enables researchers to explore and understand one or more phenomena (Parker, 2014) via the experiences of the individuals who experienced the phenomena (Sherry, 2013). The qualitative method, unlike a quantitative method, enables the researcher to develop descriptions and ascertain the meanings of the individual's experiences (Lim, 2014). Researchers use the quantitative method to test defined hypotheses (Frels & Onwuegbuzie, 2013); thus, it was not appropriate for this study because my intention was not to statistically interpret and generalize my findings using numbers (Lim, 2014). Other researchers can conduct mixed-method studies to employ a combination of quantitative and qualitative methods (Hayes, Bonner, & Douglas, 2013). Hoare and Hoe (2013) noted that researchers test hypotheses in quantitative or mixed-method studies. However, because mixed-method approaches also rely on statistical data, I decided that using mixed methods was not appropriate for the purposes of this study.

A case study design was appropriate for this study because its purpose was to explore the practices, processes, and tools that experienced construction company leaders used to identify and implement strategies to improve labor productivity. Yin (2012) noted that using a case study design enabled researchers to collect data through interviews and reviews of relevant documents in order to explore phenomena in greater depth within their real-life context. Phenomenological design was not appropriate for this study

because the purpose of the study was not to conduct an in-depth study of individuals' lived experiences of a phenomenon (Budd & Velasquez, 2014). Ethnographic design was inappropriate for this study because the purpose of the study was not to explore a shared pattern of group culture (Lambert, Glacken, & McCarron, 2013). Yin (2014) explained that researchers use narrative design to narrate the biographic stories of the participants. Therefore, narrative design was not appropriate for this study because the purpose of this study was not to narrate the biographic stories of the participants. After exploring a variety of different approaches, I elected to use a case study research design for this study.

### **Research Question**

The research question for the study was: What strategies do construction company leaders use to improve labor productivity in Doha, Qatar?

### **Interview Questions**

1. How do you define, measure, and monitor labor productivity?
2. What issues, in your experience, have a direct effect on labor productivity?
3. What are your greatest challenges in keeping your labor force productive?
4. What specific successful strategies did you develop and use to improve construction labor productivity?
5. What barriers did you encounter in implementing the strategies?
6. How did you address the barriers to strategy implementation?
7. How do you measure the success of the implemented strategies?

8. What other information, which you consider relevant to this research would you like to share with me?

### **Conceptual Framework**

Vroom's (1964) expectancy theory of motivation was the primary conceptual framework for this study. Vroom's theory consists of three variables: instrumentality, expectancy, and valence. Vroom explained that the instrumentality variable is the certainty that the worker will receive a reward if the worker meets the performance expectations. Vroom added that the expectancy variable is the worker's effort that will lead to increase the productivity. Finally, Vroom explained that the valence variable is the possible sentimental orientation towards the outcome, what he called the attractiveness of the outcomes. In general, Vroom focused primarily on outcomes in his expectancy theory of motivation. Lawler and Porter (1967) extended Vroom's theory and developed the expectancy model, which holds that higher job satisfaction leads to higher productivity. Vroom explained that various issues affect employees' performance, including skills, personality, knowledge, ability, and experience. Effective labor input is fundamental for labor-intensive firms to generate an efficient and value-driven output (Jarkas, 2012). Accordingly, since construction is labor-intensive, exploring motivational strategies that the construction company leaders used to improve labor productivity was essential.

Using Vroom's (1964) expectancy theory of motivation as a potential conceptual framework was suitable for this study because the theory focused on motivational strategies that encourage workers to better meet their goals and those of the organization

(Ozlen & Hasanspahic, 2013). As Vroom explained, understanding the issues, such as skills, personality, knowledge, ability, and experience enables an organization's leaders to develop and implement strategies and processes to motivate the worker and improve labor productivity.

### **Operational Definitions**

*Job satisfaction:* Job satisfaction is the level of contentment an employee feels with his or her job (Tziner, Ben-David, Oren, & Sharoni, 2014).

*Labor productivity:* Labor productivity is a ratio of output to input resulting from producing a product (Nguyen & Nguyen, 2013).

*Organizational commitment:* Organizational commitment is the psychological attachment of an employee to an organization (Chan & Mak, 2014).

*Work engagement:* Work engagement is the willingness of employees to invest time and effort in their work (Vincent-Hoper, Muser, & Janneck, 2012).

### **Assumptions, Limitations, and Delimitations**

#### **Assumptions**

Francis (2014) explained that assumptions are principles that the researcher considers to be true, even if no scientific proof exists. I made two fundamental assumptions in this study. The first assumption was that at least six leaders of construction companies would participate in this study. Because of the challenges the Qatar construction sector faces in completing construction in time for the 2022 FIFA event, construction leaders did not have time for interviews. The second assumption was



that all participants would respond to the interview questions and would honestly describe their experiences related to strategies they used to improve labor productivity.

### **Limitations**

Limitations mark the potential weaknesses of the study that arise during the research period and are not within the control of the researcher (Brutus, Aguinis, & Wassmer, 2013). Difficulty in gaining access to construction company leaders because of their busy schedules created time constraints. An additional limitation was the amount of time permitted for the completion of this research because of the nature of the Walden University Doctor of Business Administration program.

### **Delimitations**

Delimitations are the boundaries and parameters of the study (Hallinger, 2013). In this study, I focused on strategies construction company leaders used to improve labor productivity. Construction company leaders who were not in senior leadership and fluent in English language did not participate in the study, and the study was limited to construction firms operating in Doha, Qatar.

## **Significance of the Study**

### **Contribution to Business Practice**

As Vroom (1964) noted, labor's motivation is essential to achieve the desired outcomes. Because labor is a vital input to the construction industry, labor productivity is one of the key inputs for determining which construction companies most effectively turn inputs into outputs (i.e., completed construction; Jarkas, 2012). By identifying strategies that successful construction company leaders used to motivate workers, I provided

insights that enable construction companies to perform in a more efficient and competitive manner. Completing this study may benefit Qatar construction company leaders by identifying strategies for improving labor productivity. Improving labor productivity strategies has the potential to decrease construction costs and increase construction companies' profit margins.

### **Implications for Social Change**

Productivity improvement programs enable workers to gain access to training and to improve and expand their skill sets. Productivity improvement programs also contribute to a healthier community, higher standards of living, and lower costs (Marzuki, Permadi, & Sunaryo, 2013). In turn, lower costs could enable individuals with lower incomes in Doha to afford houses that they could not afford to buy before. Because shelter is one of the basic human needs (Syrjala et al., 2015), enabling the low-income citizens of Doha access at lower housing prices is a positive social change.

### **A Review of the Professional and Academic Literature**

To explore issues affecting labor productivity and productivity improvement strategies, researchers must understand the knowledge and experiences of successful construction company leaders. In this literature review, I included information from several sources. My objective in this study was to explore strategies that successful construction company leaders in Doha, Qatar, used to improve labor productivity to provide reliable information to other construction companies seeking to develop strategies to improve labor productivity.

This literature review contains six major headings. In the first heading, I focused on Vroom's (1964) expectancy theory of motivation and explained how motivation is crucial for workers to perform better towards their goals (Ozlen & Hasansphaic, 2013). In the second heading, I explored how labor input is necessary to the construction industry. In the third heading, I outlined how labor productivity is critical, especially in the construction industries. In the fourth heading, I described various issues that affect labor productivity in the construction sector. In the fifth and sixth headings, I explored project management success factors and strategies that enable construction company leaders to improve labor productivity.

This study contains 130 references. Out of these references, 119 (92%) were from peer-reviewed sources. Additionally, 111 references, 85%, were published in the years 2013–2017. This literature review contains information gathered from 71 references, of which 68 or 96% were peer-reviewed articles. I reviewed various scholarly, peer-reviewed articles, and books in Walden University Library's databases including Science Direct, Emerald, EBSCO, Business Source Complete, Sage, ABI, and Google Scholar. I used the following keywords and phrases for my research: *labor productivity, issues affecting the performance of construction companies, issues affecting labor productivity, productivity, leadership, construction company strategy, productivity improvement program, benchmarking, motivation, job satisfaction, and training.*

### **Expectancy Theory of Motivation Conceptual Framework**

Vroom's (1964) expectancy theory of motivation was the primary conceptual framework for this study. The expectancy theory of motivation consists of three

components: instrumentality, expectancy, and valence (Vroom, 1964). Instrumentality is the belief that if a person performs well, there will be a positive outcome (Vroom, 1964). Issues that affect instrumentality include established and transparent work procedures, trust among the team members, and an understanding of the outcomes (Organ, Proverbs, & Squires, 2013). Expectancy is the belief that increased effort will result in better outcomes (Vroom, 1964). Issues influencing expectancy include workers' skills, the availability of resources, and support from supervisors (Organ et al., 2013). Finally, valence is the belief that if employees believe they will be successful, they will achieve their objectives (Vroom, 1964).

Vroom (1964) explained that various issues affect employees' performance, including skills, personality, knowledge, ability, and experience. These concepts are all aspects of labor input, which, according to Jarkas (2012), enable labor-intensive industries to have value-driven output (i.e., completed construction). Lawler and Porter (1967) expanded on Vroom's (1964) theory and claimed that employees who have greater job satisfaction also have higher levels of productivity. Purvis, Zagenczyk, and McCray (2015) posited that Vroom did not describe *what* motivates workers, but rather explained *how* workers make appropriate decisions towards achieving the outcomes they desire.

Motivation is the driving force that stimulates workers physiologically and psychologically to pursue higher goals (Jarkas & Radosavljevic, 2013). In the construction industry, motivation determines worker productivity and quality of outcomes (Canos-Daros, 2013). A worker with low motivation is less productive, and the

poor performance of one worker can affect the performance of the entire company (Sulaiman, 2016).

For workers to become motivated, they must recognize a link between their actions and a positive outcome (Honkaniemi, Lehtonen, & Hasu, 2015). The workers' levels of commitment can change according to the perceived value of the compensation offered (Kessler, 2013). Workers who are less satisfied with their jobs typically demand more money to stay with a given employer; if they do not feel they receive satisfactory compensation, they could decide to leave (Gupta & Shaw, 2014). According to Kessler (2013), construction companies' compensation procedures should be reasonable and reflect the value of workers. Construction company leaders can design dynamic, engaging, and challenging protocols to ensure that construction workers feel compensated for their performance (Downes & Choi, 2014). Canos-Daros (2013) noted that one of the rewards employers give workers is financial compensation. Employees who receive better pay are motivated to perform better (Canos-Daros, 2013). Various researchers have agreed that employee compensation comprises between 30% and 50% of a construction project's costs (Jarkas & Radosavljevic, 2013). Hence, maintaining a motivated labor force is essential to achieving better labor productivity and better performance (Jarkas & Radosavljevic, 2013). As posited by Canos-Daros, an employee's motivation to work effectively to achieve personal and company objectives is affected by the level of financial compensation he or she receives.

## **Labor Input in the Construction Industry**

Construction companies depend on both inputs and outputs for the successful completion of projects (Too & Weaver, 2014). The construction industry needs various inputs to generate a value-driven output (Too & Weaver, 2014). The combination of labor, material, equipment, capital, and technology are the inputs that drive construction companies to generate outputs (Too & Weaver, 2014). Hwang and Soh (2013) posited that labor is the core input for producing optimum value to construction companies. For some construction company leaders, capital availability is an essential component that enables construction companies to achieve optimum value (Hwang & Soh, 2013). Jarkas (2012) concluded that labor input is one of the fundamental inputs that leaders of labor-intensive businesses use to generate an efficient and value-driven output.

Despite the advancement of technology in the construction industry, the construction sector remains labor-intensive (Jarkas, Radosavljevic, et al., 2014). The construction industry is labor-intensive by nature (Ghoddousi, Alizadeh, Hosseini, & Chileshe, 2014; Jarkas, Radosavljevic, et al., 2014; Yi & Chan, 2014). Because of the labor-intensive characteristics of the industry, labor is the key productive resource (Jarkas, 2012). The measurement of labor productivity is one way to evaluate and assess the overall performance of a construction company (Hwang & Soh, 2013).

In most countries, construction labor costs accounted for 30% to 60% of the total project costs (El-Gohary & Aziz, 2014). El-Gohary and Aziz (2014) provided an explanation similar to that of Hwang and Soh (2013), and stated that because the construction industry has labor-intensive characteristics, labor productivity is important

to the success and profitability of construction companies. Jarkas (2012) believed focusing on labor productivity would enable construction companies to monitor and control their performance and have higher levels of successful project completion.

### **Labor Productivity**

Because the construction industry is a labor-intensive industry, researchers can use the measurement of labor productivity to evaluate and assess the overall performance of a construction company (Hwang & Soh, 2013). Researchers believe construction companies should track labor productivity to ensure long-term sustainability (Hwang & Soh, 2013). According to Jarkas and Haupt (2015), construction company leaders use labor productivity figures to estimate the labor cost of the project when making a bid. Meeting the estimated labor productivity cost is crucial to ensure that the project proceeds within the given budget and timeline (Jarkas & Haupt, 2015).

Researchers defined labor productivity in different ways (Moselhi & Khan, 2012). Most researchers defined labor productivity as a relationship between human hours and work accomplished (Moselhi & Khan, 2012). The result of labor productivity measures only a single output with a single measure of input and does not represent overall performance (Moselhi & Khan, 2012). Hwang and Soh (2013) and Yi and Chan (2014) defined labor productivity as the relationship between the output produced and the inputs used during the production process period. Moselhi and Khan (2012) and Nguyen and Nguyen (2013) defined labor productivity as a ratio of output to input while producing a product.

Measuring, monitoring, and controlling labor productivity is vital to any construction company's success (Yi & Chan, 2014). Measuring productivity enables construction company leaders to plan, control, and manage time, costs, and projects (Hwang & Soh, 2013). Hwang and Soh (2013) explained that productivity measurement may help in evaluating and motivating the workforce. Measuring productivity is challenging because there are few widely accepted metrics, benchmarks, and credible productivity data (Hwang & Soh, 2013). Some construction leaders think that measuring productivity consumes too much paper, time, and money (Hwang & Soh, 2013). Lingard, Turner, and Charlesworth (2015) indicated that optimum labor productivity occurs by reducing the number of working hours and by avoiding overtime. Lingard et al. recommended that construction company leaders review the number of hours worked and regulate schedules to improve labor productivity.

Several issues affect construction labor productivity, including the level of workforce skill, job satisfaction, leadership, organizational commitment, and work engagement (Jarkas & Haupt, 2015; Jarkas, Radosavljevic, et al., 2014; Jurf & Beheiry, 2012). Identifying and understanding the issues affecting labor productivity enable construction company leaders to take advantage of what works best and improve what does not work (Alazzaz & Whyte, 2015).

### **Key Issues Affecting Labor Productivity**

Researchers disagreed on which issues have the most influence on labor productivity (Moselhi & Khan, 2012). The issues affecting labor productivity are different depending on the projects and their locations (Jarkas & Haupt, 2015). Jarkas and



Haupt (2015) concluded construction company leaders should identify and examine the positive and negative effects of these issues to enhance the performance of the construction company. Inappropriate recommendations and the absence of measurable targets for improving the performance of the workforce in the construction industry are some of the deficiencies exhibited in various studies (Mahamid, 2013).

Researchers have concluded that there are numerous causes for low labor productivity (Jarkas, 2012; Mahamid, 2013; Moselhi & Khan, 2012). Efficient and effective project planning and control are important to ensure that projects proceed according to plan. Lack of project planning and control can affect labor productivity and affect projects' progress (Jarkas et al., 2014). Improper planning may lead to rework, which results in low labor productivity (Mahamid, 2013).

Jarkas and Haupt (2015) noted that issues affecting labor productivity vary across projects and geographical locations. For example, El-Gohary and Aziz (2014) and Mahamid (2013) claimed that lack of materials was one of the main issues that affected labor productivity. Lack of materials at the construction site causes work stoppages and makes workers idle while waiting for materials (Jarkas et al., 2014). Mahamid (2013) identified multiple issues that led to material shortages, including inflation, politics, and monopolies. Lack of materials is one of the most common obstacles for construction companies, and affects labor productivity and construction companies' competitiveness (El-Gohary & Aziz, 2014).

Similar to lack of materials, frequent change orders are one of the main causes of reduced labor productivity (Jarkas et al., 2014). Most change orders included new or

revised drawings that reduced labor productivity and led to project delays (Jarkas et al., 2014). Mahamid (2013) agreed with Jarkas et al.'s (2014) argument that frequent change orders create rework that may affect the motivation of the workers.

Mahamid (2013) observed that the lack of experienced workers or the lack of workers with specific skill sets affect labor productivity. El-Gohary and Aziz (2014) agreed with Mahamid's conclusion that labor skills and experience are among the important issues that affected labor productivity. Skilled and experienced workers tend to perform efficiently (El-Gohary & Aziz, 2014). Researchers have cited unskilled and inexperienced workers as causes of poor productivity (El-Gohary & Aziz, 2014).

Jarkas (2012) concluded that *buildability* is one of the most significant issues that influence labor productivity negatively. Buildability is a preconstruction exercise that looks at a design from the perspective of the parties who are actually doing the construction. Jarkas (2012) observed that construction companies achieve higher labor productivity and lower construction costs when there is a buildable design. Labor productivity tends to decline as the complexity of the design increases (Jarkas, 2012).

The height at which the laborers are working is another issue that affects labor productivity. Moselhi and Khan (2012) noted that labor productivity decreases whenever the height at which the laborers are working increases because it takes time to move people and equipment to higher levels of the building. Some workers do not like working at high levels, and some workers are afraid of heights (Moselhi & Khan, 2012). The psychological state of the workers can change as they work at higher levels, and this could affect labor productivity (Moselhi & Khan, 2012).

The type of work affects labor productivity (El-Gohary & Aziz, 2014). Moselhi and Khan (2012) presented findings similar to El-Gohary and Aziz (2014) in this area. Moselhi and Khan (2012) observed that a process, such as pouring concrete could be more complex in one location than pouring concrete in another location.

Temperature is one of the issues that affect labor productivity. Chinnadurai, Venugopal, Kumaravel and Paramesh (2016) claimed that temperature is one of the most significant issues that affected labor productivity. Moselhi and Khan (2012) noted that labor productivity can reach its optimum in the temperature between 10°C and 24°C, and any increase in temperature negatively affects labor productivity. The speed at which workers complete their tasks considerably decreases in extreme hot or cold weather.

Smoking seems to have a negative effect on labor productivity. Yung and Agyekum-Menash (2012) calculated how much time construction companies lost from smoking breaks. Yung and Agyekum-Menash observed that construction workers smoke more than workers in any other occupation. The loss of labor productivity that comes from smoking has become a prominent issue for most construction companies (Syamlal, Mazurek, Hendricks, & Jamal, 2015). For example, construction workers in Scotland, UK, smoked an average of 5.6 cigarettes in an 8-hour day (this excludes smoking during lunch break and the formal tea break; Yung & Agyekum-Menash, 2012). These individuals spend 73 minutes smoking 5.6 cigarettes, which represented a 15.2% of productivity loss in an 8-hour shift (Yung & Agyekum-Menash, 2012). Yung and Agyekum-Menash revealed that the productivity loss that comes from smoking breaks was much higher than productivity loss resulting from sick leave or wage penalties.

In general, construction company leaders should explore, identify, and evaluate the issues that affect labor productivity (Jarkas & Haupt, 2015). Evaluating the causes and effects of these issues enables construction companies to reduce or avoid the occurrence and negative effects of these issues (Adeleye, Huang, Huang, & Sun, 2013). Construction company leaders need to measure the influence of these issues early and develop appropriate strategies to address them systematically (Adeleye et al., 2013).

### **Project Management: Critical Success Factors**

According to the Project Management Institute (2013), the leading association in the project management field, a project is a temporary endeavor commenced to create a service, product, or result. Projects have a temporary nature, with a definitive beginning and end (Project Management Institute, 2013). Joslin and Muller (2016) noted that for projects to be successful, construction company leaders should define the project's goals at the beginning of the project. For a project to be successful, construction companies need to have efficient and effective project management processes that facilitate construction company leaders' ability to complete projects (a) on time, (b) within budget, (c) in accordance with the specified quality requirements, and (d) to the satisfaction of the client (Hjelmbrekke, Laeder, & Lohne, 2014). Project management is one of the fundamental means that enable construction companies to become competitive and improve their commercial performance (Ziek & Anderson, 2015). Applying appropriate project management strategies increases the success rate of a construction company's projects (Joslin & Muller, 2016).

The selection of the correct project management approach is paramount to the success of the project (Rolstadas, Tommelein, Schiefflow, & Ballard, 2014). Rolstadas et al. (2014) concluded that projects could have higher levels of success by using the correct project management approach in the planning and implementation phases. Rolstadas et al. explained that there is ambiguity in the meaning of *project success*. Construction company leaders use different measurement and assessment techniques to evaluate the performance of their projects (Muller & Jugdev, 2012). Various researchers agreed that project success should be measured through different perspectives or sets of objectives: project objectives, business objectives, and social and environmental objectives (Rolstadas et al., 2014). To attain success, Rolstadas et al. identified two different project management approaches that enable construction company leaders to achieve their goals and objectives: the perspective approach and the adaptive approach. The perspective approach concerns the quality of the project organization, including organizational governing procedures and documentation (Rolstadas et al., 2014). The adaptive approach concerns the improvement of a project organization, team commitment, and project culture (Rolstadas et al., 2014).

Critical success factors (CSFs) vary by project types, industries, organizations, individuals, nationalities, and project life cycle phases (Muller & Jugdev, 2012). Project success is at the core of project management; for project management to have strategic value, there must be a clear connection between how effectively and efficiently the construction company executed the project (Muller & Jugdev, 2012). Muller and Jugdev (2012) analyzed the influence of scholars Pinto and Slevin (1987) and extracted two

project management components of project success: project success factors and project success criteria. The project success factors are the elements that increase the likelihood of project success; project success criteria are the measures for assessing the failure or success of a project (Muller & Jugdev, 2012). Project mission, top management support, project schedule, client consultation, personnel, technology, client acceptance, channel of communication, and troubleshooting expertise are some of the project success factors Pinto and Slevin identified. Pinto and Slevin described budget, schedule, performance, and client satisfaction as some of the major project success criteria.

Good governance, project management, and organizational commitment to the worker are significant critical success factors that enable construction companies to improve project performance and use inputs efficiently to create an optimum value-driven output (Too & Weaver, 2014). However, there must be clear links between the construction company's business strategy, inputs, and outputs (Too & Weaver, 2014). These links enable construction company leaders to create optimal value from their investments in projects (Too & Weaver, 2014).

The success of construction projects is essential for construction companies. According to Rolstadas et al. (2014), the success of construction projects relies on critical success factors. Effective and efficient management of the critical success factors increases the likelihood that the project will succeed (Muller & Jugdev, 2012). In the following subsections, I addressed various project management critical success factors, such as leadership, safety, motivation, job satisfaction, and training. I also discussed

productivity improvement programs that construction leaders use to generate strategic values to construction companies.

**Leadership.** Leadership theory is one of the most studied and least understood subjects in the world (Tabassi, Ramli, Bakar, & Pakir, 2014). Tabassi et al. (2014) defined leadership as a dynamic process in which a leader influences individuals or groups to develop their potential to perform efficiently and achieve organizational goals within a given budget, time, and quality. Efficacious leadership has a direct and positive effect on whether employees perform their duties efficiently (Chan & Mak, 2014). However, the nature of leadership is complicated, and it is difficult for leaders to identify which leadership style is most effective for a given set of conditions (Tabassi et al., 2014).

Several researchers posited that there is a direct relationship between the manager's leadership style and workforce performance (Tabassi et al., 2014). Depending on the situation, leaders may apply an appropriate leadership style to direct individuals and teams to achieve a common goal. Transformational and transactional leadership styles are the most recognized leadership styles (Tabassi et al., 2014). Tabassi et al. (2014) explained that the goal for employing transformational leadership is to bring significant changes to organizational vision, strategy, culture, and attitude. The purpose of transforming individuals or groups is to achieve better performance (Tabassi et al., 2014). Transactional leaders focus on improving the exchanges that may occur between the leader and his or her followers (Tabassi et al., 2014).

Leaders are the key shapers of the working environment (Vincent-Hoper et al., 2012). By applying an efficient and appropriate leadership style, the leader can move a project team in the right direction, improve performance, and ensure that a construction project runs smoothly (Tabassi et al., 2014). Leaders can apply an appropriate leadership style as well as a transformational leadership style to assist the project teams in improving their productivity (Tabassi et al., 2014). Some researchers have claimed that using transformational leadership strategies enables construction company leaders to improve the performance of the project team and achieve better results (Tabassi et al., 2014). Transformational leaders challenge and motivate employees by communicating attractive visions and shared values, and increase employees' willingness to achieve successful performance (Vincent-Hoper et al., 2012). Transformational leaders encourage employees to become innovative (Bacha, 2014). Leaders are responsible for achieving and maintaining healthy and efficient working employees by establishing a positive environment in which employees can flourish and thrive (Vincent-Hoper et al., 2012). Transformational leaders motivate employees to work harder toward company goals and objectives by attempting to satisfy employees' higher order needs (Vincent-Hoper et al., 2012).

Numerous researchers posited that there is a positive relationship between transformational leadership and work engagement (Vincent-Hoper et al., 2012). Transformational leadership styles appear to improve individuals' perceptions of job characteristics and employee work engagement (Bacha, 2014). Vincent-Hoper et al. (2012) defined work engagement as an encouraging, satisfying work-related state of mind



characterized by devotion and interest. Transformational leadership encourages employees to engage in their work and become innovative (Bacha, 2014). In general, transformational leaders communicate optimism about the company's goals and motivate employees to meet performance goals (Bacha, 2014). Transformational leaders encourage employees with positive motivation and a belief in the work that enhances the motivation of the followers (Chan & Mak, 2014).

The ability to motivate others is one of the key skills required by transformational leaders (Sarros, Luca, Densten, & Santora, 2014). Using appropriate language may inspire followers to follow their leader (Chan & Mak, 2014). Individuals are more likely to commit to the leader and the organization when the followers are motivated to follow (Chan & Mak, 2014).

Transformational leaders use various language styles to communicate their ideas and inspire action (Sarros et al., 2014). Sarros et al. (2014) explained that in addition to verbal communications, transformational leaders communicate through their behaviors and actions. Leaders may use one of the following language styles to communicate with individuals: direction-giving, meaning-making, or empathetic language (Sarros et al., 2014). Direction-giving language techniques focus on reducing uncertainty and on clarifying the goals and objectives (Sarros et al., 2014). The goals of using a meaning-making language style include explaining values, structures, and cultures of the organization (Sarros et al., 2014). Empathetic language demonstrates to the receiver that the sender is concerned and feels what the follower feels (Sarros et al., 2014).

**Safety.** Construction company leaders are responsible for creating a safe working environment and for keeping the employees from becoming injured or sick (Almen & Larsson, 2014). For a construction company, keeping employees safe is critical to improving labor productivity. During the construction period, accidents and injuries can happen for many reasons. Almen and Larsson (2014) explained that the primary causes of accidents in construction projects related to the equipment, materials, work team, and workplace. Almen and Larsson noted that poor design and planning of the work were some of the main causes of accidents observed in many construction sites. Similarly, Manu, Ankrah, Proverbias, and Suresh (2014) investigated the degree of potential to influence accident occurrence in the construction industry. Manu et al. claimed that the nature of the project, site restriction, design complexity, method of construction, level of construction, project duration, procurement procedures, and subcontracting affected the frequency and severity of accidents.

Construction company leaders and construction supervisors have the potential to reduce injuries on construction projects (Almen & Larsson, 2014). To improve workplace safety, researchers advocated advanced planning, which included identifying safety concerns during the planning phase of the project and employing strategies to reduce or eliminate safety hazards (Almen & Larsson, 2014). According to Almen and Larsson (2014), employing experienced and dedicated health and safety coordinators contributes to injury prevention. Almen and Larsson noted that in most construction companies, health and safety coordinators lack education and experience. Almen and Larsson suggested that construction companies leaders' needs to assess the qualifications of

health and safety coordinators during the hiring process. Ensuring that the health and safety coordinators have the relevant education, skills, and experience to do their jobs helps to maintain a safe working environment and reduce injuries (Almen & Larsson, 2014). The health and safety coordinators need to assess the risks involved in activities such as demolition work, underground construction, high level of construction, and site restrictions (Manu et al., 2014). Because these elements of specific construction projects have the potential to influence the relative level of hazard in a project, project planners and designers need to review the entire project plan to identify potential safety hazards (Manu et al., 2014).

**Motivation.** Motivation is one of the key issues that affect labor productivity. Motivation is a driving force that stimulates workers physiologically and psychologically to achieve an organizations' goals (Jarkas & Radosavljevic, 2013). Moselhi and Khan (2012) explained that working excessive hours leads to problems such as absenteeism, accidents, injuries, and loss of motivation.

The same need does not drive all employees. Some employees are motivated by pay; some are motivated by the idea of doing something positive; and some are motivated by achievement (Jarkas, Radosavljevic, et al., 2014). Construction company leaders need to understand what motivates their employees. For example, the background of the individual is one of the critical issues in determining motivation (Jarkas, Radosavljevic, et al., 2014). Hence, construction company leaders need to explore and understand the dominant culture of the workers and the culture in which they are working before trying to implement any strategies to improve labor productivity (Tam & Zeng, 2014).

In any company, workers have different backgrounds, cultures, skills, and knowledge (Tam & Zeng, 2014). Construction company leaders need to understand the employees' culture, skills, and knowledge to identify what motivates various workers (Tam & Zeng, 2014). Construction company leaders are responsible to share and transfer their knowledge to the project team throughout the project lifecycle (Tam & Zeng, 2014).

According to Ahn, Lee, and Steel (2013), lack of employee motivation is a contributor to absenteeism. Ahn et al. defined absenteeism as a failure to report for work as planned. Absenteeism in construction projects interrupts workflow, affects overall productivity, and hinders performance. There are two kinds of absenteeism: voluntary and involuntary absence (Ahn et al., 2013). Voluntary absenteeism occurs because the employee chooses to be absent on a given day (Ahn et al., 2013). Involuntary absence occurs because of conditions outside the control of the individual, such as accident or illness (Ahn et al., 2013). According to Ahn et al., some construction company leaders replace the absent employees with inexperienced workers. This results in the experienced employees having to work harder, which reduces labor productivity and increases the risk of accidents (Ahn et al., 2013). Ahn et al. observed that productivity increases by 3.8% when the absentee rate ranges between 0% and 5%, but productivity decreases by 24.4% when the absentee rate ranges between 6% and 10%.

An effective leader must have the ability to work with people from different cultures (Tabassi et al., 2014). Understanding employees' behaviors and cultures is essential to overcoming the unique challenges in motivating cross-cultural project teams (Tam & Zeng, 2014). Because most work teams are multicultural today, team integration

is a critical strategy for facilitating collaborative and cooperative teamwork (Ibrahim, Costello, & Wilkinson, 2013). According to Ibrahim et al. (2013), the process of team integration happens over time, and negative influences, such as lack of collaboration, poor communication, inconsistent shared vision, and inadequate participation of individuals make team integration difficult. Ibrahim et al. (2013) noted that focusing on (a) goals and objectives, (b) seamless operation with no organizational defined boundaries, (c) trust and respect, (d) innovation and improvements, (e) collective understanding, (f) initiative, (g) no blame culture, (h) effective health and safety management, (i) communication and sharing information, (j) commitment from top management, (k) team flexibility, and (l) responsiveness to change are the core key practice indicators of effective team integration and motivation.

**Job satisfaction.** Job satisfaction is one of the issues that affect worker productivity (Tomazevic, Seljak, & Aristovnik, 2014). Improving employees' job satisfaction has a positive influence on improving labor productivity (Marzuki et al., 2013). Suitable working hours, job security, income, and opportunity for advancement influence employees' job satisfaction (Marzuki et al., 2013).

The term *job satisfaction* concerns the relationship between the working environment and the employee (Tomazevic et al., 2014). Job satisfaction is a pleasurable state that comes from the overall evaluation of an individual's work or work experience (Tziner et al., 2014). Rezaei (2016) described job satisfaction as the pleasure a person gains from his or her work and the level of affective attachment to the work. Job satisfaction is the positive feeling an individual has towards his or her job or job situation

(Tomazevic et al., 2014). Researchers indicated that human resource department policies and procedures influence levels of job satisfaction (Tomazevic et al., 2014). Employees who have high levels of job satisfaction have higher productivity, higher levels of organizational commitment, and higher quality of work (Rezaei, 2016).

Construction company leaders should make an effort to understand what their employees want from the human resource department to create job satisfaction through appropriate human resource policies and practices (Rezaei, 2016). Construction company leaders need to design their human resource practices and policies carefully; if not, these policies may affect labor productivity and employee turnover (Tomazevic et al., 2014). Tomazevic et al. (2014) posited that construction companies' leaders need to review recruitment methods, training and development, performance evaluation/appraisal, and reward systems to determine what leaders can do to improve job satisfaction. Construction companies that have satisfied workers realize a higher level of organizational commitment, more productive workers, and less absenteeism (Rezaei, 2016).

According to Rezaei (2016), employees have different perspectives on job satisfaction. However, all the participants in the Rezaei study agreed that they cared about the quality of their project and company's performance, and these facets affected their job satisfaction significantly. For this reason, Marzuki et al. (2013) suggested that measuring employees' job satisfaction is necessary to improve construction companies' performance. Tam and Zeng (2014) concluded that operating procedures, work, and coworkers are the most important determinants of job satisfaction, while reward and

opportunities for promotion are the least important determinants of job satisfaction. In contrast, Mazruki et al. found that reward is one of the vital issues that influence job satisfaction. According to Mazruki et al., rewards could be financial (e.g., salary or bonus) or nonfinancial, such as improvement of working environment or career development opportunities.

Leadership style also affects employee job satisfaction (Tam & Zeng, 2014). According to Tam and Zeng (2014), there are four types of managers: autocratic, persuasive, consultative, and participative. Tam and Zeng reported that consultative managers are most preferred by the employees in construction firms. According to the authors, consultative managers incorporate listening, consulting, and considering into their daily work practices. Bacha (2014) noted that consultative managers give employees the impression that they are interested in employee input and participation.

**Training.** Researchers showed that labor productivity is 10% higher for workers who have had adequate training (Colombo & Stanca, 2014). Construction workers need to adapt to the frequent changes in their working environments, which require continuous development of skills and knowledge (Colombo & Stanca, 2014). Construction workers who possess skills and knowledge become vital for organizational performance and competitiveness (Colombo & Stanca, 2014).

Construction companies remain competitive by having efficient and skilled workers (Ubeda-Garcia et al., 2013). By providing training and development to the individuals and teams, workers can learn and develop their skills and knowledge help them improve productivity (Dermol & Cater, 2013). Dermol and Cater (2013) explained

that training and development improve workers' flexibility, eagerness, morale, productivity, and simultaneously increase organizational efficiency, output, and performance while decreasing absenteeism, costs, waste, and accidents. Guerrazzi (2014) noted that construction companies should offer to train the workforce to have specific skills and knowledge. Although training can improve labor productivity, construction company leaders need to assess the trainability and competency of the workers (Hashim & Wok, 2014). Hashim and Wok (2014) further explained that trainability is the ability to learn or update new skills, while competence refers the workers' ability to apply those new skills to their jobs.

Some construction company leaders believe only young and inexperienced workers need training and development (Perek-Bialas & Turek, 2013). However, many researchers, such as Axelrad, Luski, and Miki (2013), Hashim and Wok (2014), and Perek-Bialas and Turek (2013) agreed that more than 50% of employers stated that training acceptance and productivity are not affected by the age of the workers. Managers in some construction companies believe that costs for older workers rise faster than their performance. For this reason, some employers are reluctant to hire older workers or to retain current employees beyond a certain age (Axelrad et al., 2013). Multiple companies lay off older workers to save money (Axelrad et al., 2013). Actions like these can result in a lack of confidence, poor productivity, and reduced motivation (Perek-Bialas & Turek, 2013). Perek-Bialas and Turek further explained that the reduction of labor needs to be based on the type of labor skills needed for the situation and must take into account both soft skills and hard skills. Researchers seem to show that the ideal employee has



both soft and hard skills (Perek-Bialas & Turek, 2013). Hashim and Wok noted that older workers have higher than average overall performance ratings; thus, the assumption that older workers are less trainable and less productive is wrong.

**Productivity improvement programs.** Several issues can affect construction labor productivity, including leadership, safety, motivation, job satisfaction, and the level of workforce skill (Jarkas & Haupt, 2015; Jarkas, Radosavljevic, et al., 2014; Jurf & Beheiry, 2012). Construction company leaders should address these issues and develop efficient and effective productivity improvement programs to improve their ability to execute projects according to the construction company's business plan and project requirements (Alsudiri, Al-Karaghoul, & Eldabi, 2013). Mahamid (2013) stated that improvement in labor productivity is one of the core areas that construction company leaders need to focus on to improve the overall performance of the construction company and to complete projects within the given budget and time. Developing appropriate strategies for improving labor productivity minimizes competitive disadvantages and maximizes competitive advantage (Alsudiri et al., 2013). Because of the construction industry's large contribution to a country's economy, improvement in labor productivity can result in achieving lower production costs, which leads to a higher demand for building construction, which can translate into higher wages and higher standards of living (Jarkas, 2012).

Improvement of construction labor productivity is paramount because the construction process is a continuous process rather than a one-time activity that takes place in the life cycle of the project (Ranasinghe, Ruwanpura, & Liu, 2012). Focusing on

labor productivity enables construction company leaders to monitor efficiency, control performance, and achieve better results (Jarkas, 2012). Assessing and evaluating the weak areas of the project team is necessary prior to designing or implementing a strategy to improve labor productivity. For this reason, Ranasinghe et al. (2012) suggested that close monitoring and controlling are necessary during the project life cycle.

During productivity improvement programs, construction company leaders need to take into account the unique features of the project and the project location (Mahamid, 2013). Various issues can affect labor productivity, so construction leaders need to design specific productivity improvement programs addressing project's locations and complexity (Mahamid, 2013). Principally, the productivity improvement program should commence with a stakeholder assessment of the causes of low productivity (Kocer, 2014). To understand how productivity improvement programs benefit labor-intensive industrial sectors, construction companies, government agencies, and trade unions need to coordinate their efforts to create a sustainable productivity partnership and address the interests of all stakeholders (Kocer, 2014).

Regular joint reviews of the improvement program are necessary to assess whether the productivity initiatives are credible (Kocer, 2014). For example, Loosemore (2014) claimed that construction labor productivity could improve by approximately 30% to 40% by using technology. Regular joint reviews enable the stakeholders to exchange ideas and technologies that could help improve the industry's productivity (Kocer, 2014). Moreover, joint reviews of the improvement program enables construction company

leaders to benchmark their labor productivity compared to other construction companies' labor productivity (Langston, 2014).

Benchmarking is a tool that enables construction companies to measure, compare, and improve the level of productivity (Ghoddousi et al., 2014). Benchmarking is useful for construction companies in enhancing labor productivity (Ghoddousi et al., 2014). Langston (2014) agreed with Ghoddousi et al. (2014) that benchmarking enables construction company leaders to measure performance and compare their companies with international construction companies.

Benchmarking can assist construction companies in identifying inefficiencies and controlling costs (Langston, 2014). Langston (2014) compared the efficiency of construction projects located in the United States and Australia and demonstrated that the construction efficiency in Australia was relatively less than in the United States, by 1.1% per annum. The Australian construction workers worked 38 hours per week, while the U.S. construction workers worked 40 hours per week (Langston, 2014). Based on the analysis, Langston suggested that Australian construction performance might increase if Australia increased the weekly working hours to 40 hours per week. Langston concluded that both countries experienced higher levels of productivity, but the cost per square meter baseline indicated that companies in Australia spent more money than companies in the United States did. Similar to Langston's (2014) benchmark analysis, Chiang, Li, Choi, and Man (2012) studied the performance of construction companies that operate in Mainland China and Hong Kong. Chiang et al. gathered the efficiency scores of 20 construction companies listed on the Hong Kong Exchange and Clearing Limited from

2004 to 2010 and assessed them based on the Malmquist productivity index (MPI; Abbas, Hammad, Elshahat, & Azid, 2015). Chiang et al. indicated that construction companies that operate in Hong Kong had a higher MPI than construction companies in Mainland China because of higher efficiency scores (Hong Kong construction companies improved productivity efficiency by 15%, while Mainland China construction companies improved productivity efficiency by 5%).

Langston (2014) demonstrated that international best practices and benchmarking comparisons are vital to providing construction company leaders with the various means of improving the performance of their workers. Comparing the productivity of one construction company to another enables construction company leaders to evaluate, learn, and further improve the productivity of their companies (Hughes & Thorpe, 2014). Chiang et al. (2012) presented similar suggestions and explained that benchmarking and comparison of construction companies' productivity could facilitate construction companies in understanding how to make effective use of their strengths and improve their competitiveness in the construction industry.

Construction companies need to improve their productivity continually to stay competitive (Horta, Camanho, Johnes, & Johnes, 2013). For this reason, a construction company might adjust its vision in terms of its internal organizational situation, the evolution of the economic context, and its competitors' strategies (Horta et al., 2013). To adjust their vision and strategy, construction companies' leaders need to monitor the performance trends of construction companies nationally and internationally (Hughes & Thorpe, 2014). Horta et al. (2013) suggested maintaining a benchmarking and best

practices database platform to monitor and study the performance trends of construction companies in national and international contexts. Construction companies could then continually adjust their visions and strategies based on the current market environment to increase their level of effectiveness.

Ranasinghe et al. (2012) recommended that construction companies create a position called the *construction productivity improvement officer (CPIO)*, to make construction companies more systematic, sustainable, and accountable. The CPIO would be involved in productivity improvement planning and in monitoring activities in addition to coordinating and liaising with project stakeholders (Ranasinghe et al., 2012). The CPIO would identify best practices, continually document productivity issues, analyze productivity improvement goals, and perform lost productivity analysis (Ranasinghe et al., 2012). The CPIO would coordinate and provide immediate solutions to the main causes of lost productivity in construction projects (Loosemore, 2014). The implementation of the CPIO position could result in improving labor productivity.

The CPIO would be responsible for empowering and enabling individuals who could influence improved labor productivity (Kocer, 2014). Empowered and enabled workers perform better than those who are not (Alazzaz & Whyte, 2015). Alazzaz and Whyte (2015) claimed that employee empowerment and enablement provide major advantages in the construction industry and improve the construction company's position in the market. Employee empowerment and enablement significantly improve job satisfaction, which increases labor productivity and reduces employee turnover (Alazzaz & Whyte, 2015).

During the productivity improvement program, construction company leaders need to consider project managers' emotional intelligence (Zhang & Fan, 2013). Project managers need to have a high level of emotional intelligence to deal with complex issues and ensure the success of projects (Zhang & Fan, 2013). Emotional intelligence became a popular discussion in organizational behavior circles in 1995 with the publication of Daniel Goleman's book, *Emotional Intelligence* (Zhang & Fan, 2013). Zhang and Fan (2013) explained that emotional self-awareness, empathy, cultural understanding, emotional self-control, communication, and organizational awareness have a significant effect on the success of project performance. Project managers need to be evaluated in terms of whether they meet the project's overall performance, the client's requirements, the project's multiple goals, and the stakeholders' expectations (Zhang & Fan, 2013). Zhang and Fan indicated that for construction companies to improve project performance and ensure the efficient use of human resources, project leaders must have high adaptability and cultural understanding to manage international projects; project leaders who have excellent organizational awareness are prepared to manage domestic projects.

### **Construction Company Strategies**

Strategy, defined as a plan of action or policy to achieve a goal, is paramount for construction companies in achieving their mission and objectives (Alsudiri et al., 2013). Developing appropriate strategies for improving labor productivity minimizes competitive disadvantage and maximizes competitive advantage (Alsudiri et al., 2013). Construction company leaders should focus on aligning their organizational strategy with their mission and objectives to have a successful overall direction of projects (Alsudiri et

al., 2013). Rolstadas et al. (2014) noted that no specific solutions exist for developing and implementing strategies that bring success to construction companies because project success depends on a variety of issues.

Many experts believed construction projects fail because of a failure of organizational governance and a lack of appropriate project management procedures (Too & Weaver, 2014). Construction company leaders need to establish good governance and project management procedures to achieve optimal output (Too & Weaver, 2014). The goal of project management is to avoid or substantially reduce the uncertainty about meeting the expected objectives (Too & Weaver, 2014). Too and Weaver (2014) noted that construction company leaders should use four elements to achieve the organizations' objectives and strategies: portfolio management, project sponsorship, project management offices, and projects and program support for their business transformation, strategy implementation, new product development, and continuous improvement.

Adeleye et al. (2013) noted construction company leaders use various mechanisms for providing early-warning notices about their companies' financial health. The lack of early-warning mechanisms can lead construction companies to business failure. Holt (2013) explained that there is a relationship between business failure and poor strategic leadership, lack of due diligence, lack of stakeholder involvement, inadequate capitalization, and failure to innovate.

Adeleye et al. (2013) defined *loss* as a form of financial distress when the company's costs exceed its total revenues. Holt (2013) noted that the negative effect of business failure could be more significant to the construction industry because of the

demand side; the failure of the construction company can cause serious disruptions to a construction projects. If the construction company fails, the business failure can lead to a delay in projects and losses to stakeholders (Holt, 2013). Adeleye et al. noted that construction companies engaging in fabrication, material manufacturing, design, and consulting are most likely to experience loss compared to other types of construction companies. In general, business failure has a major negative effect on stakeholders and is a concern to construction company leaders, policy makers, industrialists, and governments (Holt, 2013).

Belay, Kasie, Helo, Takala, and Powell (2014) noted that construction companies that invest in their employees have higher levels of labor productivity. Organizational commitment to employees enhances employees' knowledge and skills, which increases labor productivity and turns the workforce into a source of economic benefit for construction companies (Belay et al., 2014). Workers develop positive and productive attitudes when companies address employees' needs because the organizational commitment to employees' objectives establishes an emotional connection between the employees and their employer (Belay et al., 2014).

Muller and Jugdev (2012) believed the quality of the team and the competencies of the team members are crucial to project success. Izam, Ibrahim, Costello, and Wilkinson (2015) noted that team integration is one of the key strategies construction companies use in facilitating collaboration and cooperation. Team integration enables construction company leaders to improve the effectiveness of teamwork and team performance (Izam et al., 2015). Trust and respect, team focus on goals, open



communication, commitment from top management, innovation, and improvement are the key indicators that support construction company leaders in establishing effective team integration strategies (Izam et al., 2015). Lack of team integration at the beginning of the project can affect the planning phase, the construction phase, and the overall project outcome (Izam et al., 2015).

Effective senior management support for project teams is necessary for generating business benefits (Too & Weaver, 2014). Senior management is responsible for creating strategy (Too & Weaver, 2014). Construction companies' organizational structure should facilitate interactions between the project teams and senior management to enhance the value creation of projects (Too & Weaver, 2014). Although organizational commitment to employees is vital, Belay et al. (2014) claimed that high investment in organizational commitment to employees does not always generate benefits or improve the construction company's outcomes.

### **Transition**

Section 1 covered issues affecting labor productivity and an analysis of various strategies for improving labor productivity in construction companies. Several issues affect construction labor productivity, including motivation, level of workforce skill, job satisfaction, leadership, organizational commitment, and work engagement. Construction company leaders should identify and investigate issues that affect labor productivity and develop strategies to improve labor productivity. In the review of the literature, I addressed Vroom's expectancy theory of motivation, explaining that worker motivation is important for construction companies to generate value-driven outputs. The review of

the literature included various issues that affect labor productivity in the construction industry as well as an analysis of different strategies that enable construction company leaders to overcome the issues that affect their performance. In addition, the review of the literature contained a discussion of areas where construction companies need to improve in meeting the needs of workers. In Section 2, I provided a detailed description of the research method and design and the research population. I addressed how I met the ethical requirements. In Section 3, I provide a presentation of findings from the interviews and document reviews, applications to professional practice, implications for social change, recommendations for action, personal recommendations, and overall conclusions.

## Section 2: The Project

In Section 2, I describe (a) the purpose statement, (b) role of the researcher, (c) participants, (d) research method and design, and (e) population and sampling. In addition, in this section I address (a) ethical research, (b) data collection instruments, (c) data collection technique, (d) data analysis, and (e) the study's reliability and validity.

### **Purpose Statement**

The purpose of this qualitative multiple-case study was to explore strategies construction company leaders used to improve labor productivity in Doha, Qatar. The targeted population included the leaders of six construction companies who successfully identified and implemented strategies to improve labor productivity in Doha, Qatar. The community of Doha, Qatar, will benefit from this study because improving labor productivity can increase construction company performance, enabling the companies to complete projects faster and with less construction cost. Investors who benefit from completing construction projects ahead of schedule and at lower cost could decide to maintain the same return on their investments, leading to a reduction in the price of newly developed properties. In turn, more individuals with lower incomes can afford buying houses. Given that shelter is a basic need (Syrjala, Leipamaa-Leskinen, & Laaksonen, 2015), enabling low-income citizens access to affordable shelter can produce positive social change.

### **Role of the Researcher**

As the researcher for this study, I served as the primary data collection instrument, and collected data from the interviews and review company documentation.

According to Moustakas (1994), researchers can serve as a primary instrument of data collection. The role of the researcher is targeting, exploring, understanding, and addressing relevant aspects of the research question (Moustakas, 1994). In qualitative research methods, the researcher's responsibility includes determining data collection procedures, collecting data, analyzing data, and presenting results, limitations, and recommendations in a scientific, organized, and ethical manner (Gibson, Benson, & Brand, 2013).

In this study, I explored strategies and identified shared experiences concerning labor productivity. I was familiar with the research topic because I was a construction leader with direct experience in matters that affected labor productivity in the construction industry. As Mikkelsen (2013) suggested, shared experience with the participants allowed me to explore and understand the research topic.

I adhered to the basic ethical principles and guidelines as charted in the Belmont Report protocol. The Belmont Report contained the basic ethical principles that researchers need to follow to protect human subjects: respect for persons, beneficence, and justice (U.S. Department of Health & Human Services, 1979). I followed these procedures and adhered to these ethical principles. The first ethical procedure was to obtain each participant's consent by demonstrating respect for the participants. Systematic risk assessment was the second ethical procedure that I followed to avoid any harm to the participants.

I followed appropriate qualitative research guidelines and procedures to minimize potential personal biases. As Elo et al. (2014) recommended, I collected data in a

responsible manner and mitigate bias. *Bracketing* was the first step the researcher needed to follow to rely exclusively on the research data provided by the participants (Moustakas, 1994). I made every possible effort to set aside personal views and judgments to remain unbiased.

I conducted semistructured, qualitative open-ended interviews with six participants who had relevant experience in addressing the specific business problem in the construction industry. The data collection process began once I obtained approval from the Institutional Review Board (IRB). According to the interview protocol (see Appendix A), administering face-to-face interviews with six participants began after obtaining IRB approval. The consent form described the steps that took place before, during, and after administering the interviews. As recommended by Englander (2012) and Rowley (2012), I developed the interview protocol (see Appendix A) to ensure that the interview process yielded the required information. I followed Gibson et al.'s (2013) recommendations during the interview period to ensure ethical protection of all participants.

### **Participants**

Selecting the right participants who have appropriate experience in addressing the research question is the initial step in qualitative research (Englander, 2012). Leaders in the construction industry in Doha, Qatar, participated in this study. The case study population was six construction company leaders who identified and implemented successful strategies to improve labor productivity in Doha, Qatar. Participants who were not fluent in English language did not participate in the study.

I reviewed the websites of the construction companies to gain an understanding of the companies and make initial selections of potential participants. Once I identified the contact information, I contacted the responsible person at the organization to gain access to the construction leaders. I approached the potential participants by sending an e-mail prior to initiating the study to obtain their consent for the interview process.

I conducted face-to-face interviews with one individual at a time to gain an understanding of the participant's experiences, at a location convenient to the participant. I maintained an open channel of communication with each participant to build positive relationships and to encourage them to participate in the study. Barriers to participating in the interview, such as a health problem or a lack of motivation can occur (Bardus, Blake, Lloyd, & Suggs, 2014). For this reason, I maintained a flexible approach to obtaining access to the participants by rescheduling appointments and by selecting convenient locations. Childs, McLeod, Lomas, and Cook (2014) suggested that open communication enables researchers to establish a positive relationship with participants. Through open communication, I sought to build and maintain positive and professional relationships with the research participants to establish effective working relationships. Gibson et al. (2013) noted that throughout the study, maintaining honesty and ethical principles are critical. As suggested by Gibson et al., I maintained honesty and ethical principles throughout the research period.

## Research Method and Design

### Research Method

I used a qualitative research method to explore the strategies that the construction company leaders used to improve labor productivity. The qualitative method was appropriate for the study because the use of a qualitative approach enables researchers to explore and understand one or more phenomena (Parker, 2014). The justification for using a qualitative method resulted from the need to explore the experiences of the individuals who had experience in the phenomenon (Sherry, 2013). In this qualitative method, as suggested by Parker (2014), I addressed language, ideology, culture, stories, power, and cognition that enables researchers to reveal rich, in-depth detail, and complex meanings.

Unlike the quantitative method, using the qualitative method enables the researcher to seek descriptions and meanings of the experiences of individuals (Lim, 2014). Using the qualitative method enables researchers to listen to participants describe their experiences and life stories (Sherry, 2013). The qualitative approach provides the researcher with a *window* into lives that may vary from the researcher's experiences (Sherry, 2013). Qualitative research was more appropriate than quantitative research methods for exploring strategies for improving labor productivity and understanding the associated problems. The quantitative method was not appropriate for this study because the purpose of the study was not to examine relationships and differences among variables (Lim, 2014). In a quantitative method, researchers test defined hypotheses (Frels & Onwuegbuzie, 2013). Moreover, researchers can use a combination of

quantitative and qualitative methods (mixed method; Hayes et al., 2013). Hoare and Hoe (2013) noted that researchers test hypotheses in quantitative or mixed-method studies. Because the purpose of the study was not to test hypotheses, using quantitative and mixed methods was not appropriate.

### **Research Design**

I selected a qualitative multiple-case study design to address the research question. A multiple case study design was appropriate for this study because the purpose of this study was to explore the practices, processes, and tools that experienced construction company leaders used to identify and implement strategies for improving labor productivity. Yin (2012) noted that using a case study design enables researchers to explore the cases in great depth within real-life contexts by collecting data through interviews and reviews of relevant documents. Additionally, Yin (2014) suggested that a case study design is appropriate when researchers seek to explore, understand, and provide an answer for questions regarding a phenomenon. The characteristics of case study exploration are especially suitable for addressing a research question that demands an in-depth understanding of organizational processes (Cahyadi & Prananto, 2015). For the previous reasons, I chose a case study design for this study.

Prior to choosing the multiple case study design, I considered various qualitative design approaches, including phenomenology, ethnography, and narrative design. Phenomenology design was not appropriate for this study because the purpose of the study was not to conduct an in-depth study of the lived experience of individuals (Budd & Velasquez, 2014). According to Tomkins and Eatough (2013) and Chong and Ahmed



(2014), a phenomenology design was appropriate when a researcher seeks to develop knowledge of the essence of experiencing a phenomenon, which was not the scope of this study. Ethnography design was inappropriate for this study because the purpose of the study was not to explore a shared pattern of group culture (Lambert, et al., 2013). The third qualitative design was narrative design. Narrative design was not appropriate for this study because its purpose was to enable researchers to narrate the bibliographical stories of the participants (Yin, 2014), which was not the purpose of the proposed study. After exploring the possibility of using a variety of different approaches, I elected to use a qualitative multiple case study design for this study.

Data saturation refers to the point in data collection when the researcher obtains no additional information and the collected data are sufficient to conduct the data analysis (Marshall et al., 2013). Data saturation ensures completeness and comprehensiveness (Marshall et al., 2013). Upon the successful completion of interviews with the participants, I reviewed the interview data to ensure the achievement of data saturation. To ensure data saturation, I used member checking interviews as recommended by Fusch and Ness (2015). The process included (a) review and interpretation of the interview transcripts, (b) sharing the interpreted interview data with the participants for validation, and (c) continuing the member checking process until no new information emerges (Fusch & Ness, 2015). Through follow-up member checking interviews, I obtained rich information to ensure the achievement of data saturation (Marshall et al., 2013).

### **Population and Sampling**

In a qualitative study, researchers select participants based on their ability to supply the required information that meets the research objectives (DeFeo, 2013). I invited purposefully selected participants, who are fluent in English, from the population of construction industry leaders in Doha, Qatar, to participate in this study. Palinkas et al. (2015) explained that purposeful sampling is suitable for a qualitative research approach because purposeful sampling focuses on effective sample selection based on relevance to the research context and problem. Purposeful sampling involves targeting participants so that researchers learn about the phenomenon (Barratt, Ferris, & Lenton, 2015). Using purposeful sampling enables researchers to seek the most information-rich participants who can best serve the research intentions (DeFeo, 2013).

Researchers disagree about the number of participants needed to conduct case study interviews. Ziakas and Boukas (2014) concluded that 10 participants are sufficient to conduct interviews. However, Daggenvoorde, Goossens, and Gamel (2013) suggested that 15 participants are adequate to achieve data saturation. Dworkin (2012) suggested that between five and 50 participants are acceptable sample sizes for a qualitative study. Fusch and Ness (2015) claimed that, regardless of the sample size, a qualitative researcher should focus on gathering rich data. Fusch and Ness noted that a large sample size does not guarantee that researchers will collect rich data and achieve data saturation. However, Fusch and Ness did suggest that researchers should focus on selecting a sample size that provides the best opportunity to achieve data saturation. For the purpose of this study, I followed the recommendations of Fusch and Ness (2015) and Dworkin (2012),

by selecting six construction companies and interviewing six Doha construction industry leaders who identified and implemented strategies to improve labor productivity.

Eligible participants held a leadership position in the Doha construction sector. I screened non-English speakers and automatically excluded from participating in the study. In addition, the participants had experience in identifying and implementing strategies to improve labor productivity. I used the consent form to ensure that all participants met these requirements. Following the successful selection of participants, I collected rich information by interviewing participants in a suitable interview setting. The interview setting offered a nonthreatening and comfortable environment to ensure the interview process yielded the required information on the effect of labor productivity in the construction industry. As Gibson et al. (2013) suggested, I paid close attention during the interview process to ensure the ethical protection of all participants. I conducted the interview at the participant's convenience for 60 minutes. I conducted a face-to-face interview with one individual at a time to gain an understanding of the experience of the participant at a location convenient to the participant.

Data saturation is one of the key criteria researchers use to decide the sample size and provide evidence of the quality of the study (Dworkin, 2012). Data saturation refers to the point in the data collection at which the researcher gains no additional information and the collected data are sufficient to conduct the data analysis (Dworkin, 2012; Gill, 2014; Marshall et al., 2013). To ensure data saturation, I followed the recommendations of Fusch and Ness (2015) and used member checking interviews by sending back the interview data to the participants to verify that they were complete and that no new

themes emerged. Using follow-up member checking interviews assists researchers in obtaining rich information and ensuring data saturation (Marshall et al., 2013).

Repeatedly reviewing and examining the interview data enables the researcher to ensure data saturation (Marshall et al. 2013). In line with recommendations of Dworkin (2012), Gill (2014), and Marshall et al. (2013), I selected six participants using purposive sampling and conducted interviews with the participants until data saturation occurred.

### **Ethical Research**

As recommended by Zhou and Nunes (2013), I did not start the interview process prior to obtaining approval from Walden's Institutional Review Board (IRB). I conducted this research under the Walden University IRB approval number 12-09-16-0489758. The interview protocol (see Appendix A) strictly adhered to the IRB's ethical rules and procedures. Noain-Sanchez (2016) recommended that researchers obtain participants' consent prior to commencing data collection. As recommended by Noain-Sanchez, I used the consent form to inform participants of the purpose of the research and requested their consent for the interview process. After obtaining IRB approval, I sent the consent form via e-mail to the participants, presented the printed copy of the consent form in person, and asked participants to confirm their willingness to participate in the research.

Through providing the consent form, I informed the potential participants that participating in the study was voluntary and they would not receive payment or other compensation for taking part in the study. I advised the potential participants of their right to participate or withdraw from the study. I informed participants that they could

withdraw from the study in writing or verbally without penalty at any point during or before the interview period.

To guarantee privacy and confidentiality, each company and participant received a code, such as Company 1 Participant 1 (C1P1), Company 2 Participant 2 (C2P2), to protect the identity of the company and individual. The consent form and letter included detailed ethical considerations and measures concerning confidentiality of the participants' responses. The consent form clearly informed participants that the interview data would remain password protected on a thumb drive for 5 years after the date of completion of the study. After the 5-year retention period, I will destroy the thumb drive that contains the interview data permanently.

### **Data Collection Instruments**

The researcher serves as the primary data collection instrument in qualitative studies (Moustakas, 1994). The interview has become a valuable data collection instrument for qualitative research (Englander, 2012). A semistructured interview is the most common type of data collection instrument; it enables researchers to obtain the most information about particular phenomenon from the experience of the participants (Englander, 2012; Rowley, 2012).

Campbell, Quincy, Osserman, and Pedersen (2013) noted that a semistructured interview instrument is the preferred means for data collection for qualitative research. Following the recommendation of Campbell et al., I used a semistructured interview instrument. As the primary data collection instrument, I asked the interview questions

(see Appendix B) of the participants, recorded the responses, and retrieved secondary data regarding the strategies to improve labor productivity in the construction industry.

The interview data collection captures participants' experiences regarding the phenomenon (Doody & Noonan, 2013). The main goal for the instrument is to gather data from participants regarding their experiences and understanding of the phenomenon (Guercini, 2014). I formulated the interview questions (see Appendix B) to address the research question. I expected participants to provide appropriate responses to interview questions concerning the phenomenon using their personal and professional experiences garnered from working in the construction management setting. The interview responses should generate rich qualitative data and serve to discover participants' experiences and interpretations of labor productivity (Comi, Bischof, & Eppler, 2014). In addition to interviewing participants, I reviewed company documents for additional information.

Marshall et al. (2013) noted that using an interview protocol enables researchers to ensure the uniformity of the process for collection the interview data. An interview protocol (see Appendix A) served as a guideline for conducting interviews throughout the interview session. I used the same interview protocol with all participants to ensure the uniformity of the process for collection the interview data.

I used the interview protocol (see Appendix A) to enhance the reliability and validity of the interview process. In addition, using methodological triangulation I assessed relevant company documentation to mitigate bias that might occur through relying on just one data source. As suggested by Houghton et al. (2013), I used member checking interviews to ensure that I captured the meaning of the participants' responses.

Upon the successful completion of the initial interview with each participant, I interpreted responses and shared the interpretation with the participant for validation. In addition, I performed the follow-up member checking method described by Fusch and Fusch (2015), to successfully achieve data saturation.

### **Data Collection Technique**

The qualitative interview is one of the most preferred data collection means that researchers employ to gather rich and meaningful information (Englander, 2012; Frels & Onwuegbuzie, 2013). I used the semistructured interview data collection technique to collect rich and meaningful data from the participants. I asked each construction company representative to sign the letter of cooperation (see Appendix C) prior to conducting interviews and reviewing company documentation.

After obtaining the necessary approval from the IRB, I conducted 60-minutes, face-to-face interviews with six individual participants. The face-to-face interviews included open-ended semistructured questions. I maintained an open channel of communication with the participants to build a positive relationship and encouraged them to answer the interview questions.

Prior to commencing the interview session, I noted the date, time, location, and designated participant code and turned on the audio recorder. Following the completion of these procedures, I greeted the participant, and the initial interview session began. Each participant received enough time to answer each question. I used the interview questions (see Appendix B) to gather data about strategies to improve labor productivity and provided a framework for meaningful follow-up questions.

After completion of the initial interview session, I explained the transcript review and member checking process that followed the transcription and interpretation of the data. The participants had an opportunity to ensure my transcription and data interpretations were accurate with the information they shared. I arranged a time schedule and location with the participant for the transcript review and member checking process to ensure the reliability and validity of the responses.

Existing company documents served as a source of secondary data collection. Collecting and reviewing relevant company documents enables researchers to explore the phenomena in great depth within a real-life context (Yin, 2012). I collected documents that include information about strategies that construction company leaders used to improve labor productivity and productivity improvement goals to use as secondary data. I ensured that the designated company official had signed the letter of cooperation (see Appendix C) and agreed to provide copies of labor productivity reports and productivity improvement processes.

The interview data collection technique has advantages and disadvantages. Casterle et al. (2012) noted that the quality of the data that the researcher gathers regarding the experience of participants is one of the advantages of the interview data collection technique. Zhang and Guttormsen (2016) supported Casterle et al.'s argument that the interview technique has advantages because the interview technique enables researchers to perform an in-depth exploration of the subject and uncover new ideas from the experiences of the participants. The other benefit of the qualitative interview is that the technique enables researchers to gather real-time data including visual and verbal



languages that increase the perspectives of the researcher (Comi et al., 2014). Comi et al. (2014) further explained that the complexity of the analysis of the data is one of the disadvantages of a qualitative interview. Another disadvantage of interviews is the amount of time that researchers spend to complete the interview as compared to other data collection techniques (Doody & Noonan, 2013).

Similar to the interview data collection technique, reviewing company documentation has advantages and disadvantages. Getting access, reviewing company documentation, and archival records is one of the advantages that researchers can use to increase the confirmability of the study (Rezaie et al., 2014). Yin (2012) also noted that getting access to a large sample of company documentation enables researchers to triangulate the data. However, collecting, reviewing, and analyzing a large volume of company documentation is time-consuming (Yin, 2014). The time-consuming nature of the process is one of the disadvantages of reviewing company documentation.

I recorded the interview data using an audio recorder, and transcribed the interviews for further analysis. In addition to audio recording, I took notes of key comments and nonverbal expressions during each interview. After 24 hours from the successful completion of the interview, I sent participants a copy of transcribed data via e-mail to ensure the data captured from the interviews were correct.

Reliability and validity ensure the degree of dependability and credibility of the results respectively (Morse, 2015). I used a follow-up member checking method to ensure the correctness of data interpretation and to enhance the reliability and validity of the data. In addition to obtaining rich information, as suggested by Marshall et al. (2013), I

used member checking to ensure data saturation. I kept the original synthesis and made the necessary adjustments if a participant wished to make any changes to the interview data, and I continued interviewing until no new information emerged. By sharing the interpreted interview, as indicated by Fusch and Fusch (2015), I captured the correct meaning of each participant's response and achieved data saturation.

### **Data Organization Techniques**

Data organization and analysis enable researchers to provide answers to the research question (Weller & Monroe-Gulick, 2014). Successful interviews start with careful planning of data organization (Doody & Noonan, 2013). Doody and Noonan (2013) explained that the researcher should not focus only on collecting data but also on interacting with the participants.

The data collection took place via interviews with six participants. Existing company documents served as a source of secondary data collection. Gibson et al. (2013) suggested that to achieve confidentiality, researchers should assign a unique code to each participant. Following recommendations from Gibson et al., I assigned each construction company and participant a unique code, such as C1P1, C2P2, and C3P3 to protect the confidentiality of the construction company and the participant. I used a Microsoft Excel spreadsheet for keeping a list of participants with their respective identification codes. Childs et al., (2014) advised that the researcher keep study data in safe and protected files. I followed Childs et al.'s suggestion and created separate folders that contained original transcripts, audio records, notes, results from follow-up member checking, and NVivo files.

I used a smart pen to record the interview, simultaneously wrote notes, and synchronized the audio files with notes. The notes contained a date, time, location, designated participant code, and key descriptions (Doody & Noonan, 2013). Comi et al. (2014) suggested that researchers write key notes that may emerge during the interview session. As recommended by Comi et al., I noted the key points that have emerged in the interview process and transcribed the audio-recorded interviews. I used Microsoft Word to transcribe the audio-recorded data. Following the transcription, Campbell et al. (2013) suggested transferring the transcribed data and audio files into qualitative analysis software for further analysis. I followed the suggestion of Campbell et al. and transferred the transcribed data and audio files to NVivo data analysis software for further analysis and identification of patterns and themes.

After transferring the transcribing data and audio files to NVivo data analysis software, I compiled the data. Yin (2014) defined *compiling* as the process of organizing the data. After the successful completion of compiling the data, I disassembled the data. Disassembling the data comprises a prescribed procedure of coding data (Yin, 2014). Data coding involves interpreting what participants mean in their response to interview questions and tagging segmented data with category names (Campbell et al., 2013). Ziakas and Boukas (2014) noted that coding the data is necessary to identify patterns and themes. I used NVivo for coding the data and exploring the themes. I used the NVivo auto-coding feature to explore connections in data and prevalent themes, while observing consistencies among the perspectives of the participants.

I stored the raw data such as notes and audio-recorded data, transcribed data, codes, and NVivo files on a password-protected laptop. I used a thumb drive to back up the data. I will shred paper notes and copies of company documents and permanently delete all raw data on the laptop and thumb drive 5 years after completion of the study.

### **Data Analysis**

Using data analysis enables researchers to provide answers to their research question (Weller & Monroe-Gulick, 2014). Qualitative data analysis is a challenging and complex section of research (Casterle et al., 2012). Because of the complex nature of qualitative data analysis, careful planning is necessary to perform appropriate data analysis (Rowley, 2012).

After the successful completion of data collection process, I used Yin's (2009) data analysis process and started analyzing the data. Yin stated that the case study data analysis process provided a rigorous structure that assists researchers in understanding the phenomenon. As Yin suggested, in the data analysis process, I: (a) compiled and organized the data, (b) disassembled the compiled data into fragments, (c) reassembled the data into sequence of groups, (d) interpreted the meaning of the data, and (e) concluded the findings. Using Yin's data analysis process, I identified and analyzed themes concerning strategies to improve labor productivity in the construction industry.

Researchers need to read the transcripts and review company documentation repeatedly to identify common themes (Rowley, 2012; Ziakas & Boukas, 2014). I listened to the audio recordings and read the transcripts repeatedly to ascertain what the participants said about their experiences. Bishop and Lexchin (2013) recommended

organizing and sorting the data to analyze the data and search for themes. As Bishop and Lexchin recommended, I accurately organized and sorted the data to search for common themes.

I analyzed the data to discover key themes and patterns that provided answers to the research question. I organized the collected data by category and identified the initial potential key themes from the literature review. New categories emerged as I analyzed the data; if the new category did not fit with the initial potential key themes, I established a new category. I first reviewed the data within the potential context of the conceptual framework and current literature. Borrego, Foster, and Froyd (2014) noted that the conceptual framework provides a potential connection between the research method, literature, and the results of the study. I explored the relevance of the conceptual framework and literature, including any new studies published since I began writing this study, to identify and explain all key themes.

Data coding involves interpreting what participants mean in their responses to the interview questions (Campbell et al., 2013). Using data coding enables researchers to sort and categorize the data in a uniform and systematic manner (Weller & Monroe-Gulick, 2014). Campbell et al. (2013) explained that no clear and known code-development process exists. Researchers need to analyze the data by reducing the data into meaningful statements (Ziakas & Boukas, 2014). I followed Ziakas and Boukas's (2014) suggestion and analyze the data by reducing them into meaningful statements and then combining the statements into themes. Identifying common themes from qualitative data is one of the problems qualitative researchers encounter (Casterle et al., 2012). Hence, dividing the

data analysis processes into different phases is appropriate (Casterle et al., 2012). As Casterle et al. (2012) suggested, I performed the data coding in two phases: (a) phase 1 focused on importing the information into data analysis software and coding the interview questions, and (b) phase 2 focused on coding the participants' responses and breaking the responses into smaller groups to identify recurring themes.

NVivo was the principal data analysis software I used in this study to facilitate summarizing the qualitative data, with coding, and for developing themes. I organized raw data, interpreted data, coded, and identified themes using NVivo. I identified and highlighted emerging themes while examining the audio recordings and interview texts. In addition to NVivo, I used Microsoft Excel and Microsoft Word to support the data organization, coding, and theme generation processes. Methodological triangulation followed using multiple data sources once the data were organized, categorized, coded, and clustered.

Researchers perform follow-up member checking by conducting multiple interviews with participants to capture in-depth information (Houghton et al., 2013). Simultaneously, as determined relevant, researchers can review company documents to identify themes and patterns (Yin, 2012). Hays, Wood, Dahl, and Kirk-Jenkins (2014) suggested that researchers employ triangulation strategy to ensure the credibility of the study. Triangulation is one strategy researchers can use to ensure the credibility of the research (Rezaie et al., 2014). Employing a triangulation strategy enables researchers to perform systematic checks of the research findings with multiple resources to ensure the

credibility of the study (Kapoulas & Mitic, 2012). I used methodological triangulation to identify and validate themes across the multiple types of data.

### **Reliability and Validity**

#### **Reliability**

If the purpose of the study is to generate valid and reliable information, the most crucial facet of a qualitative study is assuring the quality of the data retrieved (Pich & Dean, 2015). Qualitative research requires an inventive, expressive, and imaginative approach to assess the reliability and validity of the study (Houghton et al., 2013).

Reliability is a measure of whether the results of the study can be replicated (Moustakas, 1994). Frels and Onwuegbuzie (2013) noted that the research design and data of the study should support the ability to reach accurate conclusions. As Frels and Onwuegbuzie suggested, I gathered a rich description of interview content and secondary data to assure the conclusions of the study were reliable and valid.

Reliability is essential for qualitative research to demonstrate dependability by providing rich descriptions of the design features and processes so that other researchers can replicate the study (Campbell et al., 2013). Documenting the research procedures accurately provides others with the assurance of the study's reliability (Grossoehme, 2014). As Grossoehme (2014) suggested, I documented the research procedures I followed to demonstrate the reliability of the study. Frels and Onwuegbuzie (2013) and Foster, Hays, and Alter (2013) explained that using an appropriate research method would assure the collection of reliable information and the ability to draw reliable conclusions. In addition, I adhered to the interview protocol (See Appendix A) as a

guideline for conducting interviews throughout the interview session to demonstrate the reliability of the data collection process.

**Dependability.** Dependability concerns the consistency of research findings across several researchers using similar research design protocols to explore the same phenomenon (Yin, 2012). Yin (2012) explained that having an appropriate interview protocol is essential. As Yin recommended, I used an appropriate interview protocol (see Appendix A) to assure the dependability of the data collection process. Methodological triangulation is one method that researchers use to ensure the dependability of the study (Rezaie et al., 2014). To address the issue of dependability, I employed methodological triangulation of various sources of information. Fusch and Ness (2015) noted that researchers use transcript reviews and member checking by sending back the original transcripts and interpreted transcripts respectively to the participants to verify the accuracy of the transcription and interpretation. As Fusch and Ness recommended, I used transcript reviews and member checking by providing the original transcripts and interpreted transcripts to the participants to verify the accuracy of the transcription and interpretation of the data.

### **Validity**

Creditability, transferability, dependability, and confirmability are the four criteria that qualitative researchers use to evaluate the quality of the study (Hays et al., 2014). Rezaie et al. (2014) explained that creditability, transferability, dependability, and confirmability are the four necessary elements that enable researchers to address and



demonstrate the validity and trustworthiness of the study. These four essential elements enable researchers to justify the truthfulness of the findings (Kapoulas & Mitic, 2012).

**Credibility.** Triangulation is one the strategy that researchers use to ensure the credibility of the research (Rezaie et al., 2014). Using triangulation strategy enables researchers to perform various systematic checks of the research findings with multiple resources to ensure the creditability of the study (Kapoulas & Mitic, 2012). Furthermore, as Houghton et al. (2013) suggested, by using methodological triangulation, I confirmed the consistencies of findings among various data collection types. I used various processes such as member checking and multiple data types such as company documents and previous literature to ensure the credibility of the study, as Hays et al. (2014) recommended.

**Transferability.** Strengthening the research narrative will enable others to determine the research transferability (Southgate & Shying, 2014). I offered a comprehensive explanation of the subject, nature of participants, data collection procedures, data analysis process, and study limitations to enable others to determine the transferability of the research and findings (Rezaie et al., 2014). The rich description of the processes and findings enabled other researchers to determine the applicability of this study to other areas (Rezaie et al., 2014).

**Confirmability.** Kapoulas and Mitic (2012) recommended that researchers provide rich descriptions of their data collection processes to demonstrate the confirmability of the study. As Kapoulas and Mitic suggested, I provided rich descriptions of the data collection procedures, data analysis processes, assumptions,

limitations, and delimitations to enhance the conformability of the study. Moreover, I analyzed and interpreted the findings from the data in a logical and objective manner to assure the confirmability of the research (Hays et al., 2014).

**Data saturation.** Data saturation refers to the point in the data collection when no new information emerges and the collected data are sufficient to conduct the data analysis (Marshall et al., 2013). Upon the successful completion of the interviews, I reviewed the interview data to ensure the achievement of data saturation. Member checking is one of the methods that researchers use to ensure data saturation (Fusch & Ness, 2015). Through the follow-up member checking interviews, I obtained rich information and ensured data saturation (Marshall et al., 2013). As Fusch and Ness (2015) and Marshall et al. (2013) recommended, I performed follow-up member checking interviews to obtain rich information and ensure data saturation.

### **Transition and Summary**

Section 2 provided a description of why a qualitative multiple-case study was appropriate for this study and contained an explanation of the research methods, research designs, ethical considerations, data collection, data organization, data analysis, and data interpretation procedures. Section 2 concluded with a discussion of procedures I employed to assure reliability and validity of my study's conclusions. Section 3 contains the findings of the study, and recommendations for future research, and my overall conclusions.

### Section 3: Application to Professional Practice and Implications for Change

In Sections 1 and 2, I provided an explanation of why the findings from this study are potentially important to construction company leaders, as well as detailed information on the research design and implementation processes. Section 3 contains the findings of the research. In addition, Section 3 includes (a) introduction, (b) presentation of the findings, (c) application to professional practice, (d) implications for social change, (e) recommendations for action, (f) recommendations for further research, (g) reflections, and (h) summary and study conclusions.

#### **Introduction**

The purpose of this qualitative multiple-case study was to explore strategies construction company leaders used to improve labor productivity in Doha, Qatar. Based on the predefined criteria, six construction company leaders participated in six distinct individual interviews. I reviewed company documentation and used it as a second type of data to validate the findings from the interviews.

After performing data analysis, I identified five major themes that were associated with the successful construction company's leaders' strategies for improving labor productivity: (a) exploring, identifying, and evaluating issues affecting labor productivity; (b) applying an appropriate leadership style; (c) motivating the workforce; (d) providing training and development; and (e) implementing effective project management processes.

## **Presentation of the Findings**

This heading contains an introduction of the various themes that emerged from exploring my study's data to answer the research question: What strategies do construction company leaders use to improve labor productivity in Doha, Qatar? I conducted semistructured interviews with six construction company leaders in Doha, Qatar as a primary source. The conceptual framework for this study stemmed from Vroom's (1964) expectancy theory of motivation. Based on the research question, data analysis of semistructured interview responses and a data analysis of company documentation, I identified five core themes that pertained to various strategies that construction company leaders used to improve labor productivity in Doha, Qatar. The findings related to construction company leaders' strategies regarding (a) issues affecting labor productivity, (b) leadership, (c) motivation, (d) training, and (e) project management.

### **Theme 1: Exploring, Identifying, and Evaluating Issues Affecting Labor Productivity**

The first theme related to exploring, identifying, and evaluating issues affecting labor productivity. The conceptual framework and body of literature supported the *exploring, identifying, and evaluating issues affecting labor productivity* theme. Researchers agreed that because various factors affect labor productivity, construction company leaders should explore, identify, and evaluate the issues that affect labor productivity (Jarkas & Haupt, 2015). Adeleye et al. (2013) supported Jarkas and Haupt (2015) in that they agreed that exploring and evaluating the issues affecting labor

productivity enables construction company leaders to reduce the occurrence of negative effects that affect their company's financial performance. Exploring, identifying, and understanding the issues affecting labor productivity enable construction company leaders to identify what works best and improve what does not work well (Alazzaz & Whyte, 2015).

Various issues affect construction labor productivity, and researchers disagreed on which issues have the most influence on labor productivity (Moselhi & Khan, 2012). Similar to the body of literature, respondents raised and discussed various issues that affect labor productivity in the construction industry. For example, respondent C4P4 explained that the unique characteristics of the labor workforce in Doha, Qatar, are one of the major issues that have a direct effect on labor productivity. Respondent C4P4 continued that the factors that have a direct effect on labor productivity are skills of laborers, morale of laborers, project management, environment, cultural factors, motivational factors, behavioral factors, poor quality of engineering drawings, weather conditions, lack of construction materials, and lack of tools. Participant C1P1 explained that the cultural mix of the laborers, the weather conditions in Qatar, the poor quality of engineering drawings, lack of tools, and late delivery of materials were the major factors that affected the labor productivity. Respondents C2P2, C3P3, and C5P5 identified the same concerns as respondents C1P1 and C4P4.

Jarkas and Haupt (2015) noted that issues affecting labor productivity are different depending on the nature of construction projects. Even though there are numerous issues affecting labor productivity, respondents highlighted two major issues

affect labor productivity in the construction industry of Doha, Qatar. All of the respondents believed the cultural diversity of the laborers and the weather conditions in Doha, Qatar, are the most common issues that affect labor productivity in the construction industry of Doha, Qatar.

For example, participant C2P2 noted the following:

Culture is the major barrier because we have laborers who come from different countries. The major issues we have are lack of communication. We can say that culture is a breach of communication. Most of the laborers do not speak English, which is the most common contractual language we use in all our projects.

Similarly, participant C4P4 explained the following: “In Qatar, construction companies would normally employ a diverse workforce. Managing diverse teams is challenging when the laborers came from different countries. The laborers have different cultures and work ethics. Lack of communication is the issue we usually had”.

Tam and Zeng (2014) supported the notion that the existence of cultural issues is one of the major factors affecting labor productivity. Exploring and understanding the laborers’ behavior and culture is essential to overcoming the unique challenges in working with a diverse workforce (Tam & Zeng, 2014). Ibrahim et al. (2013) provided a similar explanation to that of Tam and Zeng, claiming that because most work teams are multicultural today, exploring and understanding the culture of laborers should be a critical strategy for construction company leaders to use to improve labor productivity and achieve the goals of construction companies.

The extreme hot temperature and high humidity in Doha, Qatar, are the other key issues that all participants raised and discussed during the interview session.

For example, respondent C1P1 noted the following:

The weather conditions have a tremendous direct effect on labor productivity.

From September to April, the weather conditions are considered satisfactory for the laborers to perform their work both inside and outside. However, from May to August, the high humidity level and the high temperature have a direct effect on labor productivity.

Similarly, respondent C3P3 stated that labor productivity is 25% less in the summer period compared to the labor productivity in the winter period. Furthermore, the labor productivity report provided by respondents C1P1 and C3P3 supported that the extreme hot weather conditions and high humidity of Doha, Qatar, especially from May to August, have a direct effect on labor productivity. The labor productivity report provided by respondent C5P5 confirmed the overall labor productivity as being less from May to August compared to the months between September and April. The labor productivity report illustrated that the labor productivity starts increasing gradually from September through April.

The issue of extreme hot weather conditions and high humidity of Doha, Qatar, is supported by the body of literature that temperature is one of the major issues that affect labor productivity in Doha, Qatar. Chinnadurai et al. (2016) claimed that high temperature is one of the most significant issues to affect labor productivity. Similarly, Moselhi and Khan (2012) noted that labor productivity could reach its optimum when the

temperature is 10°C and 24°C; any increase in temperature negatively affects labor productivity. The speed at which workers complete their tasks decreases significantly in extreme hot or cold weather (Moselhi & Khan, 2012).

In addition to the cultural and weather issues, respondents noted that numerous other issues affect labor productivity in the construction industry. In general, issues affecting labor productivity are different depending on the characteristics of projects and their locations (Jarkas & Haupt, 2015). The conceptual framework of this study supported the *exploring, identifying, and evaluating issues affecting labor productivity* theme. Vroom (1964) explained in his expectancy theory of motivation that various issues affect the outcome of the laborers, including skills, personality, knowledge, ability, and experience. Hence, the conceptual framework I selected for this study supported the theme that exploring and understanding the issues affecting labor productivity can enable construction company leaders to improve labor productivity. Moreover, researchers such as Jarkas (2012), Ma, Liu, and Mills (2016), Mahamid (2013), and Moselhi and Khan (2012) agreed that numerous issues affect labor productivity; therefore, exploring, identifying, and evaluating issues affecting labor productivity can enable construction company leaders to understand the issues that negatively affect labor productivity and improve labor productivity.

### **Theme 2: Applying an Appropriate Leadership Style**

The second principal theme related to applying the appropriate leadership style to improve labor productivity in the construction industry. The importance of applying an appropriate leadership style is one of the main topics that the respondents raised and



discussed. The respondents highlighted that depending on the situation, leaders should apply appropriate leadership styles to direct the laborers toward achieving a common goal. The leader in charge of the labor plays a key role in motivating the laborers and improving labor productivity. The study findings indicated that applying an appropriate leadership style depending on the laborers' backgrounds and cultures can enable construction company leaders to improve labor productivity.

The body of literature supports the notion that, for this case study, each of the successful leaders applied appropriate leadership styles depending on the situation. By applying an efficient and appropriate leadership style, leaders can direct the laborers and move the project team in the right direction, thus improving labor productivity and ensuring that a construction project runs smoothly (Tabassi et al., 2014). Similar to Tabassi et al. (2014), respondent C1P1 noted the following:

In order for the laborers to become productive, the leader should direct and motivate the laborers. I can say that most of the laborers lack discipline; hence, appropriate supervision is necessary. The supervisor should be from the same culture or place as the laborer so that the supervisor can communicate, guide, and supervise the laborers effectively.

C3P3 provided documentation for C3's best practices and productivity improvement goals that illustrates how construction leaders play key roles to control and influence the labor productivity. C3P3's best practices and productivity improvement goals indicated that successful construction company leaders set goals and develop techniques to improve laborer motivation to improve labor productivity. Similar to

C3P3's best practices and productivity improvement goals, Vincent-Hoper et al. (2012) noted that leaders are responsible for achieving and maintaining healthy and efficient working atmosphere by applying the appropriate leadership style. Chan and Mak (2014) explained that, depending on the situation, leaders might apply a transformational leadership style to encourage the laborers with positive motivation and belief in the work to motivate the laborers and improve labor productivity. In agreement with the results of the body of literature, respondent C2P2 noted: "The supervisor in charge of the laborer plays a major role to motivate the laborers and improve labor productivity. The supervisor has to motivate the laborers. The motivation will help the laborers become productive".

Furthermore, respondent C4P4 explained that "in Doha, Qatar, construction industry motivation relates to reward, which means you need to give the laborers some incentive, such as a bonus or increase their salary". Therefore, in addition to applying transformational leadership style, the leaders can apply transactional leadership style to motivate the laborers in exchange for something valuable to them (Tabassi et al., 2014). Similar to Tabassi et al. (2014) and respondent C4P4, respondent C2P2 noted that the leader has to provide rewards and incentives to the laborers to motivate employees and increase employees' productivity.

In general, applying appropriate leadership style improves labor productivity and brings significant changes to organizational vision, strategy, culture, and attitude (Tabassi et al., 2014). One purpose of applying an appropriate leadership style is to improve labor productivity and achieve better performance. The study's findings indicated that

depending on the situation, successful construction leaders can apply appropriate leadership styles according to the laborers' background, culture, and skill to improve labor productivity. The expectancy component of Vroom's (1964) theory supported the *applying an appropriate leadership style* theme. Expectancy is the belief that increased effort will result in better outcomes (Vroom, 1964). Leadership style is one of the main factors influencing expectancy belief (Organ et al., 2013). Based on the expectancy component of Vroom's (1964) theory, employees who expect a change in their leaders' style and detect such a change are more likely to increase their outcomes. Tabassi et al.'s (2014) and Popli and Rizvi (2017) conclusions supported the theme that applying an efficient and appropriate leadership style can enable construction company leaders to direct the laborers and move the project team in the right direction, thus improving labor productivity and ensuring that a construction project runs smoothly.

### **Theme 3: Motivating the Workforce**

The third theme related to motivating the workforce. Motivation is the key factor that affects labor productivity in a positive or a negative way (Jarkas & Radosavljevic, 2013). The *motivating the workforce* theme directly relates to the expectancy theory of motivation, which was the conceptual framework for this study. My study's findings align with those from Vroom's theory that various issues can affect labor productivity and for this reason, motivating the workforce could improve labor productivity.

The documentation of best practices and productivity improvement goals provided by respondent C3P3 indicated that lack of laborer motivation became a great concern to the construction leaders in Doha, Qatar. Respondent C6P6 explained that lack

of motivation exists for many reasons. C6P6 believes construction company leaders should offer various forms of motivation to keep the laborers productive, which ultimately benefits the construction company. A less motivated worker is less productive, and the poor performance of one worker can affect the performance of the entire company (Sulaiman, 2016). Respondent C6P6 stated:

The morale and motivation of the workforce is affected by the prevailing conditions in the country, the specific project, their management, and their welfare. Motivation will be visibly increased in teams where the leaders clearly explain their target and objectives properly and fairly evaluate performance and strive to support their teams to achieve their targets. There should be a system of evaluating and rewarding performance fairly, correctly, and in a transparent manner to the maximum degree possible. This will set the framework upon which the workforce would set about performing their tasks.

Respondents C2P2 and C3P3 believed that motivation assists in keeping the labor force productive. According to Jarkas and Radosavljevic (2013), motivation is the driving force that stimulates workers psychologically and physically to pursue higher goals. For workers to become motivated, the laborers must recognize a link between their actions and a positive outcome (Honkaniemi et al., 2015). Respondent C6P6 recommended that construction company leaders develop a motivation strategy and constantly motivate laborers to improve labor productivity and achieve the goal.

The means of motivating laborers vary among the participating construction companies. The best practices documentation provided by C4P4 illustrated that

recognition and rewards are key to motivate laborers. The documentation indicates that simple things such as saying “thank you”, on-the-spot recognition, and providing company-focused clothing or hats may motivate the laborers. Respondents C1P1 and C2P2 motivated their laborers by providing better living facilities and improving safety standards. The remaining respondents motivated their laborers by providing financial incentives. However, respondent C4P4 noted that in Doha, Qatar, motivation related to reward, which, as interpreted by C4P4, meant that construction companies are obligated to give laborers financial incentives, such as bonuses or higher salaries.

The respondents’ recommendations are in line with the body of literature that motivating laborers improve labor productivity. Kessler (2013) noted that the laborers’ level of commitment could change according to the perceived value of the compensation offered. Workers who receive higher pay are motivated to perform better (Canos-Daros, 2013). The *motivating the workforce* theme directly relates to the expectancy theory of motivation, in which Vroom (1964) explained that various issues affect employees’ performance and motivating the workers is one of the key factors that can increase the laborers’ level of commitment and improve labor productivity. The study findings support those of Jarkas and Radosavljevic’s (2013) and Tsehayae and Fayek’s (2016) conclusions that motivation is the driving force that stimulates workers physically and psychologically to pursue higher goals; hence, motivating the workforce can improve labor productivity.

#### **Theme 4: Providing Training and Development**

The fourth theme related to providing training and development of the laborers. Training can have a significant and positive influence in labor productivity in the construction industry (Dermol & Cater, 2013). Training and development enable laborers to learn and develop their abilities and to achieve the expected goals. Training the laborers increases the skills of the laborers and enables laborers to work efficiently. This study's findings indicated that providing training and development to the labor force can improve labor productivity and increase the success rate of their construction company.

The body of literature supported the theme that developing training strategy and providing training to the laborers can improve labor productivity. All participants noted that they employ laborers mostly from Asian countries and that most of the laborers are unskilled. These laborers have no experience in the construction industry. Respondent C2P2 noted:

Most of the new laborers are inexperienced and not ready to start work. The supervisor needs to train the laborers in how things are done in the Middle East to overcome the challenges and produce results. Do not expect that the laborer will become productive immediately. You need to consider the learning curve. Before starting the work, the supervisor should call his team for briefing, guiding, and explaining how to do the work. It is important to motivate and give the laborer advice and guidance on a daily basis.

Similarly, respondent C4P4 noted the following:

When the laborers arrive in the country they would not only require an orientation and familiarization period, but they would often not have the necessary degree of skills and qualifications, thus they would require a period of training as well as an orientation and adjustment to their new environment.

Respondent C1P1 noted that it is essential to provide in-house training for the laborers to help them understand what they have to do, understand the scope of work, and learn some skills. Similar to respondent C1P1, respondent C2P2 noted that the successful strategy for improving labor productivity is to educate the labor force. Training and development improve laborers' flexibility, eagerness, morale, and productivity. Moreover, C2P2 noted that training enables laborers to learn and develop skills that will assist them achieving better productivity. At the same time, training and development improve organizational efficiency, output, and performance while decreasing absenteeism, costs, waste, and accidents (Dermol & Cater, 2013).

The best practices document provided by C4P4 illustrated that training and development enable laborers to demonstrate their competency. Furthermore, C4P4 noted that training develops, transforms, and directs laborers' capabilities to perform specific tasks. Previous researchers have also concluded that providing training to the laborers increases their skills and knowledge. Colombo and Stanca (2014) noted that labor productivity is 10% higher for workers who have had adequate training; for this reason, providing training and development programs to the laborers can improve labor productivity. The findings of this study also revealed that developing an effective training strategy and providing effective training and development to the laborers improve labor

productivity. The conceptual framework of this study supported the *providing training and development* theme because as Vroom (1964) stated various issues affects the outcome of the laborers; hence, it is essential for construction company leaders to train laborers' to increase the laborers skills and ability improve the laborers outcome. Dermol and Cater's (2013) and Ho's (2016) conclusion supported the *providing training and development theme* that by providing training and development to the laborers and teams, laborers can learn and develop their skills and knowledge, which helps the laborers improve productivity.

#### **Theme 5: Implementing Effective Project Management Processes**

The fifth theme related to implementing effective project management processes to improve labor productivity. Project management is a broad topic, and implementing the project management processes (initiating, planning, executing, controlling, and closing) as recommended by the Project Management Institute (2013) could enable construction company leaders to improve labor productivity. The study findings indicated that understanding and implementing effective project management processes can enable construction company leaders to improve labor productivity and complete construction projects within time and budget.

The body of the literature supported the theme that implementing project management processes can improve labor productivity. Ziek and Anderson (2015) noted that implementing project management processes enables construction companies to become competitive and improve their commercial performance. Joslin and Muller (2016) supported Ziek and Anderson's conclusions by stating that implementing



appropriate project management processes improves labor productivity and increases the success rate of a construction company's projects.

Several issues affecting construction labor productivity related to project management (Jarkas & Haupt, 2015; Jarkas, Radosavljevic, et al., 2013; Jurf & Beheiry, 2012). For this reason, exploring, identifying, and evaluating the issues affecting labor productivity and implementing effective project management processes and strategies enable construction company leaders to overcome the issues and simultaneously improve labor productivity. Similar to the body of literature, respondents C1P1 and C4P4 highlighted that several issues affected construction labor productivity because of lack of effective project management processes. According to the Project Management Institute (2013), the leading association in the project management field, most projects include planning, executing, monitoring and controlling, and closing. Therefore, regardless of the issues that affect labor productivity, implementing effective project management processes enables construction company leaders complete their projects within the given time and budget.

Respondent C6P6 stated that planning, monitoring, and controlling are the fundamental project management processes that enable construction company leaders to improve labor productivity and increase the success rate of construction projects. Rolstadas et al.'s (2014) conclusion supported respondent C6P6's conclusion that the construction project could have higher levels of success by using the appropriate project management approach in project planning and implementation phases. Similarly, respondent C4P4 noted that improved labor productivity could result in improved

profitability and possibly rewards for the company's employees. C4P4 also asserted that implementing efficient project management could result in more business for the company.

Hjelmbrekke et al. (2014) concluded that for a construction project to be successful, construction companies need to have efficient and effective project management processes that facilitate construction company leaders' ability to complete projects (a) on time, (b) within budget, (c) in accordance with the specified requirements, and (d) to the satisfaction of the client. Effective and efficient project management processes increase the likelihood that the construction project will succeed (Joslin & Muller, 2016).

In conclusion, the study's findings indicated that understanding and implementing project management processes enables construction company leaders improve labor productivity and complete projects within the given budget and time. The conceptual framework of this study supported the *implementing effective project management processes* theme because, as Vroom (1964) stated, various issues affect the outcome of the laborers; hence, by implementing effective project management processes construction company leaders could address the issues that affect the outcome of the laborers and improve labor productivity. Joslin and Muller's (2016) and Lloyd-Walker, French, and Crawford (2016) conclusions are similar to the findings of the study that implementing effective project management processes improves labor productivity and increases the success rate of a construction company's projects.

### **Applications to Professional Practice**

The findings of the study are potentially meaningful to professional practices in numerous ways. The main objective of the study was to explore strategies construction company leaders used to improve labor productivity in Doha, Qatar. This study revealed five themes that benefited construction companies' leaders in developing strategies to improve labor productivity.

Poor labor productivity has been an increasing concern for construction company leaders (Jarkas & Haupt, 2015). The findings of this study relate to the expectancy theory of motivation and indicate that motivating the laborers enables construction company leaders improve labor productivity. As Vroom (1964) noted, laborers' motivation is essential to achieve the desired outcome. Because laborers are essential to the construction industry, labor productivity is one of the key inputs for determining which construction companies most effectively and efficiently turned inputs into output (Jarkas, 2012).

The findings of my study also revealed that understanding and implementing effective project management processes enable construction company leaders to improve labor productivity. Understanding the five project management processes: (a) initiating, (b) planning, (c) executing, (d) controlling, and (e) closing can expand construction company leaders' ability and improve labor productivity (Project Management Institute, 2013). The Project Management Institute (2013) indicated that construction company leaders should attain a professional project management certification. While not required

in most industries, credentialing of this nature can lead to more efficient and effective project managers in the construction industry.

The findings of the study also revealed that applying appropriate leadership styles depending on the situation can improve labor productivity (Chan & Mak, 2014).

Depending on the situation, construction company leaders can choose transformational or transactional leadership styles to improve labor productivity (Tabassi et al., 2014). By applying the right leadership style, construction company leaders can direct the laborers, move the project team in the right direction, and ensure that a construction project runs smoothly (Tabassi et al., 2014).

Improved labor productivity could result in improved productivity and possibly rewards for companies' employees. The improved efficiency could also result in securing further contracts. The study findings may benefit Qatar construction company leaders by identifying strategies for improving labor productivity. Improving labor productivity strategies has the potential to decrease construction costs and increase construction companies' profit margins.

### **Implications for Social Change**

The study findings may assist construction company leaders to improve the standard of living of the low-income citizens of Doha, Qatar, by providing information for increasing labor productivity through motivation, training, leadership, and project management processes. The findings reinforced the conclusion that motivating and training the laborers may be beneficial in improving labor productivity. Improvements in construction company policies and practices may nurture a better sense of quality of life

for laborers in the construction industry. As presented in the findings of the study, all participants in this study agreed that motivation, training, leadership style, and applying the right project management processes add to labor productivity. Labor productivity is a measure of economic growth and is linked to improved standards of living (Belay et al., 2014).

Productivity improvement programs enable workers to gain access to training and to improve and expand their skills sets. Productivity improvement programs have also contributed to a healthier communities, higher standards of living, and lower costs of houses (Marzuki et al., 2013). Lower costs have enabled individuals with lower incomes in Doha to afford houses that they could not afford to buy before. Because shelter is one of the basic human needs (Syrjala et al., 2015), giving the low-income citizens of Doha access to shelter at lower housing prices is a positive social change.

### **Recommendations for Action**

As the researcher of this study, I am personally devoted to enlightening construction company leaders about the findings of the study as they relate to construction industry practices. Construction company leaders have a significant role to play in developing construction business policies and procedures that maximize labor productivity. Construction company leaders are encouraged to be aware of the research findings and to coach themselves on the strategies for affecting and sustaining motivation, training the laborers, applying the right leadership style, and implementing appropriate project management processes. Construction company leaders should be

adequately knowledgeable in identifying suitable strategies to improve labor productivity to best position their construction companies for achievement.

In general, the findings of this study might be useful to construction company leaders, consultants, construction clients, project stakeholders, and construction company employees. I plan to send a summary of the findings of the study via e-mail to construction company representatives and all research participants. My intention is to publish the findings of this research for the wider audience of the construction industry using appropriate and effective platforms such as seminars and lectures.

### **Recommendations for Further Research**

I distinguished various research limitations and key areas for further study about strategies for improving construction labor productivities. Limitations mark the potential weakness of the study, which were not within my control as the researcher (Burns et al., 2013). Difficulty in gaining access to construction company leaders because of their busy schedules created time constraints.

I would recommend researchers conduct further studies to explore issues not covered in the study. One recommendation for further study is to conduct quantitative research to measure the constructs identified in this research and assess the relationship between these variables and labor productivity. Another recommendation is that researchers expand the research domain to determine whether the themes I identified in this study are the same for other business sectors or in other locations.

As discussed in the findings, motivation, training, leadership, and applying project management processes improved labor productivity in the participating construction

companies. However, these concepts require careful planning and monitoring. Another recommendation for further research is the assessment of laborers' culture and behavior that may or may not be suitable for the construction industry. Findings from future research relating to exploring specific issues affecting labor productivity, motivation, training, leadership, and implementing project management processes in other environments may improve other construction companies' practices by further exploring construction company leaders' strategies on alternative approaches for improving labor productivity.

### **Reflections**

Given that poor labor productivity affects the performance of construction companies (Jarkas & Haupt, 2015), findings from this study became informative to the construction leaders at a time when construction company leaders were seeking strategies to improve labor productivity. Prior to conducting this research, I had no predetermined concepts concerning the study. As the researcher of this study, I did my professional and personal best to conduct the study in an unbiased manner. I depended exclusively on the data and analysis to provide answers to the research question.

During the course of the data collection period, I was careful to collect data in an unbiased manner and emphasize the mission of the researcher, while doing my professional and personal best to make the construction leader participants feel comfortable. The construction company leader participants were exceptionally helpful in disclosing their wide personal and professional experiences. Even though I used the allocated 1 hour or less time slot to conduct the interview, it was apparent that the

interviews could have extended for longer periods. In the course of my data analysis process, I cautiously scrutinized the multiple data types to identify themes, being careful to bracket any potential personal biases.

The study findings resulting from the data characterized the essence of the construction leaders' answers that directed a better understanding of the research question. I felt educated by the outcomes of the research and gained significant relevant knowledge from the findings of the study. Almost all construction company leader participants indicated that exploring strategies to improve labor productivity was a timely issue. I found it inspirational to listen to the research participants describe their wide personal and professional experiences.

### **Conclusion**

Labor productivity is one of the significant parameters by which construction company leaders measure and evaluate the overall performance of construction companies. Construction company leaders highlighted that numerous issues affect labor productivity even with the advanced technology and new project management methodologies. Identifying, understanding, and evaluating the issues affecting labor productivity enables construction company leaders to overcome the issues, improve labor productivity, and ensure long-term sustainability. By improving labor productivity, construction company leaders can complete construction projects faster with lower construction costs. The study findings indicated numerous strategies that successful construction company leaders use to improve labor productivity: (a) exploring, identifying, and evaluating issues affecting labor productivity; (b) applying an



appropriate leadership style; (c) motivating the workforce; (d) providing training and development; and (e) implementing effective project management processes.

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## Appendix A: Interview Protocol

Interview Title: Exploring strategies for improving labor productivity in construction companies in Doha, Qatar

1. The interview period will begin with greetings and introduction.
2. The participants will read the informed consent form and confirm their agreement via email to participate in the study.
3. I will present the printed copy of the consent form and request that participants sign the form to confirm their willingness to participate in the study. Following the greetings and introduction, the study participants will read the informed consent form and confirm their agreement by signing the consent form to participate in the study.
4. I will provide a signed printed copy of informed consent form to the participants for their records.
5. I will note the date, time, location, and designated participant code name (e.g., C1P1).
6. I will turn on the audio recorder and greet the participant, and the initial interview session will commence.
7. Each participant will receive enough time to answer each interview question, including any additional follow-up questions.
8. After completion of the initial interview session, I will explain the member checking process that will follow the transcription and interpretation of the data. The participants will have an opportunity to member check and ensure my data interpretation is accurate with the information they shared. I will arrange a time

schedule and location with the participant for the member checking process to ensure the reliability and validity of the responses.

9. At the end of the interview session, I will thank the participant for his or her time and participation in the study.

### Appendix B: Interview Questions

1. How do you define, measure, and monitor labor productivity?
2. What issues in your experience have a direct effect on labor productivity?
3. What are your greatest challenges in keeping your labor force productive?
4. What specific successful strategies did you develop and use to improve construction labor productivity?
5. What barriers did you encounter in implementing the strategies?
6. How did you address the barriers to strategy implementation?
7. How do you measure the success of the implemented strategies?
8. What other information, which you consider relevant to this research would you like to share with me?

## Appendix C: Letter of Cooperation

Company XX  
Contact Information  
Doha, Qatar

12/10/2016

Dear Lakew G. Buli,

Based on my review of your research proposal, I give permission for you to conduct the study entitled "Strategies for Improving Labor Productivity in Construction Companies" within Company XX. As part of this study, I authorize you to recruit and interview construction leaders, collect labor productivity reports, review productivity improvement goals, and results dissemination activities. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: providing you with a copy of the labor productivity reports, and demonstrating the productivity improvement goals. We reserve the right to withdraw from the study at any time if our circumstances change.

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

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

Sincerely,  
Authorization Official  
Contact Information

Walden University policy on electronic signatures: An electronic signature is just as valid as a written signature as long as both parties have agreed to conduct the transaction electronically. Electronic signatures are regulated by the Uniform Electronic Transactions Act. Electronic signatures are only valid when the signer is either (a) the sender of the e-mail, or (b) copied on the e-mail containing the signed document. Legally an "electronic signature" can be the person's typed name, their e-mail address, or any other identifying marker. Walden University staff verify any electronic signatures that do not originate from a password-protected source (i.e., an e-mail address officially on file with Walden).