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MASTER′S THESIS WORK

We hereby recommend that the dissertation prepared under our Supervision by: (Fatima Saleem & Regn No. NUST 2018MSCEM00000274957)

Titled: **Adoption of Agile Performance Management in the Construction Industry for Project Success using System Thinking Approach**

be accepted in partial fulfillment of the requirements for the award of **Master of Science** degree with (_____ Grade).

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This is to certify that the research work presented in this thesis, entitled "Adoption of Agile Performance Management in the Construction Industry for Project Success using System Thinking Approach" was conducted by Ms. Fatima Saleem under the supervision of Dr. Khurram Iqbal Ahmad Khan. No part of this thesis has been submitted anywhere else for any other degree. This thesis is submitted to the Construction Engineering and Management in partial fulfillment of the requirements for the degree of Master of Science in the Field of Construction Engineering and Management.

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This thesis is dedicated to my parents and my respected teachers!

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ABSTRACT

Projects have become more complex over time. Therefore, projects with time delays and cost overruns are delivered in the construction industry. Project complexity is one of the reasons for poor performance.

Complexity affects the preparation and control of projects; it can disrupt the clear identification of priorities and objectives or it can even affect the results of the project. Performance of construction projects is affected by their management. Organizations complain that the annual/bi-annual cycle does not improve business performance or employee engagement. But the need for fast completion of construction projects, or at least for projects completed on time, has been triggered by both dynamic market forces and increasing societal needs.

Projects include requirements and complications that must be reduced to complete the type of project requested by clients. Working on the root causes of project complexity improves the project's chances of success.

Agile performance management is thus proposed as a potential solution for dealing with project complexity. Agile aims at providing market value over constant repetition in a shorter period

Agility is an organization’s overall capacity to react and take advantage of the changes introduced by drivers in the internal and external environment. It requires the ability to recognize necessary changes and respond proactively, quickly, and effectively, hiring the right competence-based, not hierarchical, personnel. Also, the ability to incorporate flexible processes and practices suitable for the immediate tasks at hand and to use the necessary resources in the shortest possible period is included. All in all, organizational agility is the capacity to react to situations and do so efficiently and smartly.

Agile performance management is a continuous, scientific, and iterative process. This is a system of 360-degree feedback, communication, and coaching. The chances of project success are improved by focusing on the factors that cause project complexity. Agile approaches, which demonstrate one-on-one coordination with clients, are one way to reduce the project's complexity. Coaching consists of regular ongoing meetings between staff and their supervisors to promote individual improvements in learning and behavior, as well as offer positive and developmental opportunities to help staff learn how to cope with complex circumstances. To improve organizational efficiency and individual growth, the main goal of coaching is to build a positive learning environment. In comparison to coaching, which usually focuses on the potential success of the work, feedback focuses on providing workers with data on past work performance to improve desirable actions or suggest areas for improvement. Conducting performance reviews on a more frequent basis (quarterly) may have positive effects on both the worker and the company. Acknowledgment is a type of positive reinforcement provided to desirable behaviors in response to building to shape and enhance performance common acknowledgment types include a Special mention in a meeting, a note in a business newsletter, or several gifts.

This study aims to examine the shortcomings of traditional performance management, evaluate the advantages, and identify challenges creating complexity in the implementation of agile performance management and the importance and interconnectivity using the system thinking approach.

The research findings will help practitioners to implement APM in the construction sector and will not only produce high-quality and cost-effective deliverables but will also guarantee customer satisfaction, remove subjectivity and bias from the evaluation

process and decrease uncertainty and risk involved during the construction project. This research would not only assist construction industry practitioners but also include empirical evidence relating to the use of the agile methodology. It will provide a new insight to industry practitioners that it is very important to use agile methodology for the successful completion of the projects and how it affects the industry's customers as agile methodology offers one-to-one indications of perfect customer cooperation. A Causal Loop Diagram of the findings and a prospect for future research will conclude the study.

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CLD	Causal Loop Diagram
APM	Agile Performance Management

Chapter 01

INTRODUCTION

1.1 Brief Overview

Projects have become more complex over time (Baccarini, 1996; Williams, 1999; Harvett, 2013; Philbin, 2008; Hillson and Simon, 2007;). Therefore, projects with time delays and cost overruns are delivered in the construction industry (Enshassi, 2009). Project complexity is one of the reasons for poor performance (Sohi et al., 2016).

Complexity affects the preparation and control of projects; it can disrupt the clear identification of priorities and objectives or it can even affect the results of the project (San Cristóbal et al.,2018). Performance of construction projects is affected by their management (Hertogh and Westerveld, 2010). Organizations complain that the annual/bi-annual cycle does not improve business performance or employee engagement. But the need for fast completion of construction projects, or at least for projects completed on time, has been triggered by both dynamic market forces and increasing societal needs (Han, 2013).

Projects include requirements and complications that must be reduced to complete the type of project requested by clients. Working on the root causes of project complexity improves the project's chances of success (Gidado, 1996).

Agile performance management is thus proposed as a potential solution for dealing with project complexity. Agile aims at providing market value over constant repetition in a shorter period(Measey and Radtac, 2015; Sakikhales et al., 2017). Agility is an organization’s overall capacity to react and take advantage of the changes introduced by drivers in the internal and external environment. It requires the ability to recognize necessary changes and respond proactively, quickly, and effectively, hiring the right

competence-based, not hierarchical, personnel. Also, the ability to incorporate flexible processes and practices suitable for the immediate tasks at hand and to use the necessary resources in the shortest possible period is included (Zerfass et al., 2018: p.7). All in all, organizational agility is the capacity to react to situations and do so efficiently and smartly.

Agile performance management is a continuous, scientific, and iterative process. This is a system of 360-degree feedback, communication, and coaching. The chances of project success are improved by focusing on the factors that cause project complexity. Agile approaches, which demonstrate one-on-one coordination with clients, are one way to reduce the project's complexity (Veiga,2017). Coaching consists of regular ongoing meetings between staff and their supervisors to promote individual improvements in learning and behavior, as well as offer positive and developmental opportunities to help staff learn how to cope with complex circumstances (Lindbom, 2007). To improve organizational efficiency and individual growth, the main goal of coaching is to build a positive learning environment (Kilburg,2000, p.65; Judge and Cowell 1997; Yirci et al., 2016). In comparison to coaching, which usually focuses on the potential success of the work, feedback focuses on providing workers with data on past work performance to improve desirable actions or suggest areas for improvement (Hillman et al.,1990). Conducting performance reviews on a more frequent basis (quarterly) may have positive effects on both the worker and the company (Schraeder et al., 2007). Acknowledgment is a type of positive reinforcement provided to desirable behaviors in response to building to shape and enhance performance common acknowledgment types include a Special mention in a meeting, a note in a business newsletter, or several gifts (Haines and St-Onge, 2012).

This study aims to examine the shortcomings of traditional performance management, evaluate the advantages, and identify challenges creating complexity in the implementation of agile performance management and the importance and interconnectivity using the system thinking approach.

The research findings will help practitioners to implement APM in the construction sector and will not only produce high-quality and cost-effective deliverables but will also guarantee customer satisfaction, remove subjectivity and bias from the evaluation process and decrease uncertainty and risk involved during the construction project. This research would not only assist construction industry practitioners but also include empirical evidence relating to the use of the agile methodology. It will provide a new insight to industry practitioners that it is very important to use agile methodology for the successful completion of the projects and how it affects the industry's customers as agile methodology offers one-to-one indications of perfect customer cooperation. A Causal Loop Diagram of the findings and a prospect for future research will conclude the study

1.2 Problem Statement

The need for fast completion of construction projects, or at least for projects completed on time, has been triggered by both dynamic market forces and increasing societal needs (Han, 2013. However, projects with time delays and cost overruns are delivered in the construction industry. Organizations complain that the annual/biannual cycle does not improve performance. As organizations are now operating in a rapidly changing environment (Cappelli and Tavis,2016). Traditional Performance Management process is inflexible, slow, and incapable of fulfilling rapidly changing business needs. TPM processes weren't built with today's challenges in mind. Hence,

traditional approaches are now being considered outdated (Yeo, 2002). There is a lack of a comprehensive performance system in the construction industry (Neely, 1999). There is a need to change the performance management approach from static, obsolete, and inefficient traditional performance management for the success of the project (Conforto et al. 2014). If a proper system is implemented in the construction industry, it will certainly help to save money, and time, improve quality, increase productivity, guarantee customer satisfaction, remove subjectivity and bias from the evaluation process and decrease uncertainty and risk involved during the construction project.

1.3 Level of Research Already Carried Out on the Proposed Topic

Abbas (2014) and Malik and Aslam (2013) looked at performance evaluation from a Pakistan viewpoint. In this regard, they have concentrated on productivity and motivation. 70% of multi-national organizations are moving away from the obsolete annual assessment approach to performance management, according to human resources analysts (Maier, 2017).

A performance management survey conducted across more than 1000 organizations across 53 countries revealed that only 3 percent showed exceptional value for their overall performance management program (Mercer LLC, 2013). The organizations surveyed ranged in size and served a wide variety of industries adopting conventional as well as agile methodologies of work. This illustrates the need to examine the efficacy of staff assessment Methods in general, due to the continually changing working environments and Team Composition.

According to Magazinius and Feldt (2011), there is little difference between firms that adopt agile methodologies and those that use traditional management practices.

Because the rate of failure is not well differentiated in both circumstances, the rate of success and the time it takes to implement the projects are not significantly different.

Anderson et al., (2005) demonstrated the relationship between traditional and agile approaches. Qumer and Henderson (2008) emphasized the value of agile compliant performance assessment. Conboy et al. (2011) concentrated on the need for agile compliant performance assessment and described it as an obstacle in the adoption or use of methodology by organizations. Many of the methods and approaches to agile methodology have many more findings that require more study (Larman, 2004). This study aims to introduce the industry's next performance management. This study aims to examine the shortcomings of traditional performance management, implement agile performance management in the construction industry, and explain the benefits and opportunities that will come from it.

1.4 Reasons / Justification for Selection of The Topic

The construction industry plays an important part in any nation's development and economic growth. Because of the competitive environment, companies need to continually improve their performance and ensure that the goals are met, so it directs and leads the top management to formulate the planning policy and helps clear it down to the individual employee level. To improve the overall business performance and consider the interrelationships between business-relevant aspects, different performance variables should also be evaluated, i.e employee engagement, sales revenue, and quality of service (Wettstein, 2002). But there is a lack of a comprehensive performance measurement system in the construction industry and because of the absence, it is impossible to recognize the status of an organization. It is important to assess the results to know the position of the company in the industry, what it needed

to change for success, and how to influence the actions of their subordinate (Neely, 1999). If a proper network or program is implemented, it will certainly help to save money, and time, improve quality, and increase productivity.

The need to adapt to changes is one big challenge developers frequently face (Austin and Devin, 2009; Barlow et al., 2011). After a project starts, specifications often change, and clients and stakeholders often change their expectations for the finished product. Traditional methods contain provisions to meet changing demands, but these provisions take time and can be expensive. To achieve targets in a meaningful way, there is a need to establish and study various aspects of measuring and controlling market performance perspectives and performance measurement system design (Beatham, 2003). Performance management can bring benefits and advantages to any professional organization, and its use and implementation are now widespread (Kulatunga et al., 2007). This research will provide the construction industry with an SD model that will help create long-term success plans for an organization.

1.5 Research Objectives

1. To identify the barriers and benefits in the implementation of agile performance management
2. To determine the significance, interconnectivity, and functionality among the identified factors
3. To develop a causal loop diagram addressing the complexity in the adoption of agile performance management.

1.6 Relevance to National Needs

The construction industry plays an important part in any nation's development and economic growth. There is a need to implement the agile performance management

concept in the construction industry. It will help in increased quality and reduced cost, boost productivity, Minimized delays, and reduced uncertainty.

1.7 Advantages

1. Improve organizational skills of both management and development personnel
2. Improve on-time delivery and customer satisfaction
3. Remove subjectivity and bias from an evaluation process

1.8 Area of Application

This research will help in

- Increased collaboration and communication
- Minimized delays and reduced uncertainty
- Increased collaboration among stakeholders
- Increased productivity, quality, and reduced cost

Chapter 02

LITERATURE REVIEW

2.1 Construction Industry

Any country's development and economic prosperity are dependent on the construction industry (Isa et al., 2013, Maqsoom et al., 2013, Boadu et al., 2020).

Large-scale infrastructure projects have grown significantly in size, variety, and complexity in many developing countries during the past few decades. The construction industry is complicated because it involves so many different parties, including clients, contractors, consultants, stakeholders, stockholders, regulators, and others. The management of large projects invariably necessitates coping with project-related uncertainty. These uncertainties, alongside a bunch of other well-documented issues, are at the foundation of project delays and a drop in organizational performance (Ofori 1991; Ogunlana et al. 1996). As a result, both governments and companies are concerned about improving performance to survive in the competitive and increasingly globalized construction industry (Ofori 1991, 1993a; Ogunlana et al. 1996).

The construction sector must adopt best practices and industry-specific lessons to improve performance. The use of Agile techniques is one of these instances. Agile methodologies have been applied to a range of other industries with varying degrees of success as a result of their success in software development. Due to the innovative and complicated nature of the projects, old traditional management should not be used to carry them out because it is no longer effective for the projects' success. Therefore, opportunities in the sector should be examined to adopt the agile methodology for the project's effective delivery (Conforto et al. 2014).

2.2 Complexity of Project and Success of Project

Complex systems are difficult to comprehend and manage. When it comes to the construction sector, the majority of projects fail due to complexity and technical specifications that are difficult to comprehend. Because of the project's complexity, the majority of projects have failed. The success of a project is adversely correlated with its complexity (Tatikonda and Rosenthal, 2000).

According to the complex nature of recent projects involving creativity and innovation, it has been determined that the project's complexity has a negative relationship with project performance, which harms project success, also project complexity influences project outcomes to achieve success in the organizational network, even in minor phases of a project, as complexity develops, competition and complication increase, particularly when managing transaction-related expenses to manage project complexity and also by encouraging collaborative contact (Moore et al., 2016). The intricacy of a project has a negative relationship with its success. (Tatikonda and Rosenthal, 2000).

According to research, project complexity has been the focus of attention since it initiates the bottleneck effect in the project, and because there was no clear remedy for that project complexity earlier, it was ignored or considered to be overcome subjectively, As a result, project complexity is one of the major project features that must be adequately overlooked to preserve cost and time baselines while competing with market dynamics, implying that complexity can have a direct impact on project success(Gidado, 1996).

Hence, a project manager's efficacy and efficiency are required because project complexity is a critical issue since it is linked to the project team's performance metrics in a performance management process while generalizing the process of project success (Abdou et al., 2016).

2.2.1 Performance

Performance refers to accomplishments, results, and consequences that individuals, groups, and firms achieve (Rothwell et al., 2012). Bagraim et al., (2010) followed Brumback's (1998) definition of overall performance which encompasses both behaviors and results … not only are the instruments for achieving results, but

behaviors are also outcomes in their own right. Bernardin and Beatty (1984) defined performance as the record of results achieved on a certain job function, activity, or behavior over a specific period. Human performance is a complicated phenomenon that includes both process and outcome aspects (Kozlowski et al., 1999).

2.3 Performance Management

Performance management is the practice of assessing and controlling both behavior and results in the workplace. This procedure is described in a variety of ways by different organizations. Some of the terminology used are merit evaluation performance evaluation, performance review, employee evaluation, and annual appraisal (Carrell et al., 1998).

Similar to that, performance management is a technique for controlling employee output through planning and feedback to inspire them to fulfill their potential under departmental objectives. This procedure enables the employer to deal effectively with poor performance while also allowing great performance to be recognized. (Western Cape Provincial Government, 2005:3).

2.3.1 Shortcomings of Performance Management

One of the goals of performance management systems is to serve as a development guide for employees (Sahu et al., 2018). Employees, on the other hand, treat annual reviews as unpleasant rituals that they would want to avoid if they had an option (McElgunn, 2019). Organizations complain that the annual/biannual cycle does not improve performance. Performance management methods cost a lot of time and money, yet the results are virtually always unsatisfactory. For instance, Deloitte looked at its strategy and found that it required two million staff hours annually to define performance goals, complete assessment forms, and conduct formal performance

reviews. In addition to the cost of personnel hours, the technical solutions needed to automate these processes and make performance data accessible can run into hundreds of dollars annually. If performance management initiatives improved employee engagement and performance, this cost may be justified; however, this is rarely the case.

Peer input is not permitted in traditional performance management, which only offers feedback from supervisors. One-way communication is common when it comes to communication. In terms of the supervisor providing feedback on the employee's performance and persuading him of the results, it is purely top-down. It is only concerned with the performance of individual employees, not with the overall development of the year. Hence, traditional approaches are now being considered outdated, as organizations are now operating in a rapidly changing environment. Moreover, the traditional approach is to be responsible for the current failures of construction projects (Esangbedo et al., 2021). Employees are unaware of the opportunities for advancement that organizations present through their performance management strategies. As a result, new approaches to performance management must be studied and used to assure the project's success and achievement of its goals.

2.4 Performance Management in Developing Countries

In many underdeveloped countries, the size, quantity, and complexity of large-scale infrastructure projects have increased significantly over the years. Project complexity is identified as one of the causes of cost overruns, poor performance, and, ultimately, project failure (Kaming et al.,1997). Nearly two-thirds of all construction projects in the globe have experienced serious problems in Iraq, such as an increase in the project's cost, a delay in the given time for completion, and the project's termination.

(Mohammed et al., 2018). 90% of government infrastructure projects in India are behind schedule. (Nallathiga et al., 2017). According to Ling et al., (2007), architectural, engineering, and construction (AEC) firms may have difficulty managing construction project performance in China, because they are inexperienced with the new working environment. The Gaza Strip's construction industry is also affected by significant problems and severe performance issues. For example, delays of around 110 days caused poor performance in the construction of 14 residential units in the Rafah area. Closures, revisions to drawings, and revisions to the design are all solid reasons. Poor management and leadership, inappropriate participants, poor relations and coordination, a lack of motivation, control, monitoring, or decision-making systems, inadequate infrastructure, political issues, cultural issues, and economic conditions are all factors affecting the performance of construction projects in Gaza (UNRWA, 2000). Several mega projects in Nigeria are lagging in terms of normal project performance goals. (Ekung et al., 2017). Nigeria's construction sector is known for its poor performance in terms of project cost overruns, project planning and control, project completion timelines and deadline compliance, and a surge in rework and defects.

Due to the extremely unique and complicated nature of the projects, traditional management should not be used to carry them out because they are outmoded for project success. As a result, opportunities in the sector should be investigated to use the agile methodology for project success (Conforto et al. 2014).

2.5 Agile Methodology

2.5.1 Brief History of Agile

Agile methodologies have their roots in the software sector (Ashmore and Runyan, 2014). Before February 2001, there was no name for all of these new flexible and

adaptive methods (Agile methods); they had previously been referred to as lightweight. Seventeen method developers representing various Agile approaches assembled in the small ski town Snowbird in Utah, USA, because they felt all of their methods needed a single name and common values. Several names were considered, one of which was "Adaptable," but since this implies that acts are taken retroactively, it was rejected. The word "Agile" was adopted because it was seen to be a more appropriate description of these methods. The "Agile Manifesto" was born out of the common issues that were discussed and agreed upon during the Snowbird meeting. The four values and twelve principles of Agile are stated in the Agile Manifesto (Beck, et al., 2001).

The Agile values are:

(1) individuals and interactions over processes and tools,

(2) working software over comprehensive documentation,

(3) customer collaboration over contract negotiation,

(4) responding to change over following a plan.

The Agile principles are:

(1) early and continuous delivery of valuable software,

(2) Agile processes embrace change for the benefit of the customer's competitive advantage,

(3) deliver working software frequently,

(4) people interaction daily (business and developers),

(5) build projects around motivated individuals,

(6) face-to-face communication,

(7) The key indicator of progress is functional software,

(8) constant pace,

(9) continuous attention to technical excellence and good design enhances agility,

(10) simplicity,

(11) self-organized teams,

(12) at regular intervals, the team reflects on how to become more effective.

2.5.2 Agile as a Concept

Agility has become widely employed across numerous research areas as a notion that brings together the concepts of adaptation, flexibility, responsiveness, and coordination. (Dyer et al., 2009). It alludes to the ability to properly deal with uncertainty (Sharifi and Zhang 1999). In addition, agility is defined as “a company's ability to respond quickly and effectively to (unforeseen) market changes” (Brown and Bessant, 2003; Sharifi and Zhang, 2001), as well as the ability to meet a wide range of customer requirements in terms of quantity, quality, specification, price, and delivery (Bottani, 2010). High-quality, highly personalized products are usually associated with agility (Sherehiy et al., 2007; Yusuf et al., 1999).

Even while APM is most commonly used in the IT and software industries, its benefits are recognized in other disciplines as well (Ciric et al., 2018). There has been some research done on the application of APM in the construction industry, where it is not yet commonly used. Based on research in the software business (Pundak, 2014), it is a

recently proposed method for construction projects that appears to be promising (Špundak, 2014).

2.5.3 Why do we need to implement agile approaches in the construction sector?

To increase competitiveness and stay ahead of the competition, construction project managers must make changes to the way they handle complicated projects. One of these improvements is the adoption of Agile, a set of principles derived from software development that emphasizes the collaboration of self-organizing teams to respond quickly to changing requirements (Szalvay, 2004).

According to Sigala, (2019), the Agile Performance Management System facilitates regular conversations about capabilities and skills and encourages teaching environments. As a result, employees feel more valued and motivated. Employee involvement and morale enhancement have a direct effect on employee retention. Another advantage is that this Agile Performance Management System assists firms in becoming more team-centric. Performance reviews and feedback change from focusing just on an employee's accomplishments to assessing their contribution to a team and the team's impact on achieving wider corporate objectives. Furthermore, because employees connect and collaborate with peers daily, peer-based evaluation is typically more valuable than feedback from managers. Agile Performance Management, on the other hand, can genuinely empower employees to control and coach their performance. All parties benefit from a positive working relationship based on peer feedback and encouragement.

Construction methods, technologies, materials, and stakeholder needs, are all evolving all the time, and management must adapt to new technology, changing surroundings, and growing competition. To make it more efficient, keep ahead of the competition,

and improve production, project managers and construction engineers must make changes to the way they manage complicated projects. Furthermore, organizations must acknowledge the need of implementing the agile technique (Nerur et al., 2005). The use of Agile methodology contributes to the project's success (Serrador and Pinto,2015)

The applications of this approach are not restricted to the software sector. It establishes values and concepts that can be applied across sectors. Agile approaches have been applied to a range of other industries, with varying degrees of success, as a result of their success in software development. Due to the unique and complicated nature of the projects, traditional methods should not be used to execute them because they are outmoded for project success. As a result, opportunities in the sector should be investigated to adopt the agile approach for project success (Conforto et al. 2014).

2.5.4 Agile Approaches in Construction Sector

Agile methodologies are not widely used in the construction sector (Serrador and Pinto, 2015). This could be due to the degree to which traditional management is enshrined in the construction industry, or it could be due to the difficulty of applying the flexibility of the iterative Agile method in a domain like construction, where changing plans in the middle of a project is both difficult and costly. Even though Agile methods are currently being used in the construction business, this does not indicate that they are not relevant or successful in the construction industry (Owenet al., 2006). According to Avison and Taylor (1997), because the construction industry is becoming more customer-focused, the industry is moving toward the agile technique. Little is known about Agile in the construction industry because it is often used in construction projects. The construction sector's interest in the subject, however, is growing (Owen, et al., 2006).

2.6 Agile Performance Management

Agile Performance Management is the result of a set of software industry principles and concepts (Chin, 2004; Conforto and Amaral, 2008). Agile performance management is a continuous, scientific, and iterative process. This is a system of 360-degree feedback, communication, and coaching. It is defined as a strategy that involves managers and direct reports in frequent conversations and collaboration on goal setting, work progress, and performance updates (Deloitte Development LLC., 2017). It also involves regular check-ins between managers and direct reports, occasional performance/development discussions, and continuous, real-time collecting of performance evaluation data from employees' channels. According to Kumar and McArthur (2015), the format of short iterations (sprints) can boost team productivity since priorities are decided jointly by the client and the team. Furthermore, the same author claims that ongoing client interaction leads to increased client engagement and fewer design revisions. This system, according to Larson (1984) and Saunier and Mavis (1998) allows for a more holistic picture of an employee's performance, including a focus on goal setting, looking ahead to future development, coaching, and the incorporation of 360-degree feedback.

2.7 Three Aspects of Agile Performance Management

2.7.1 360 Degree Feedback

It is a method that collects behavioral observations from multiple levels of the organization and includes self-assessment (Hoffman (1995). Conducting performance reviews on a more regular basis (quarterly) may benefit both the employee and the firm (Schraeder et al., 2007). 360-feedback, as defined by Jones and Bearley (1996), is the

process of collecting and processing multi-rater assessments of persons and feeding the results back to the listeners.

Because performance tends to fluctuate over time, continuous feedback provides a more consistent picture of actual performance (Jung and Sosik 2003). Furthermore, regular feedback is required to help employees grow and develop (McCarthy and Garavan 2001). Giving people constructive feedback on their performance has a positive impact on their future performance. (Taylor and Pierce, 1999). According to Birdi et al., (1997), employees participated willingly in work-related learning and career development activities, as well as organizational performance improvement, when they sensed management support in the feedback process. Performance-based feedback is perceived as a kind of fairness among employees, according to a study done by Singh (2018). Another study by Cohen et al., (2016) discovered that giving employees rapid feedback improves their performance.

2.7.2 Communication

Communication is the transfer and comprehension of meaning (Robbins & Judge, 2008 It involves the creation or transfer of thoughts, ideas, feelings, and comprehension between the sender and the recipient (Keyton, 2011). It is critical for establishing and maintaining relationships in the workplace. Effective workplace communication ensures that organizational goals are met. Communication is important at all stages of a construction project because it entails the exchange and flow of information and ideas from one person to the next (Aiyewalehinmi et al., 2013). By following hierarchical levels, communication acts to manage member behavior in an organization. Employee motivation can be boosted by defining what has to be done, how well they're performing, and what can be done to increase performance. Communication is also

thought to give an outlet for emotional expression and the fulfillment of social requirements. Finally, communication facilitates decision-making by delivering the information that an individual or a group requires (Robbins and Judge, 2008).

2.7.3 Coaching

Coaching consists of regular ongoing meetings between employees and their supervisors to promote individual improvements in learning and behavior, as well as to provide positive and developmental opportunities to assist employees in learning how to cope with complex situations (Lindbom, 2007). Employees and organizations benefit from coaching, according to Diedrich (1996) and McCrackenand Heaton (2012), who see it as a valuable tool for career growth. Because coaching responds to the needs and expectations of the workplace (Sherman & Freas, 2004) and is also effective in other ways, such as correcting and improving poor performance (Gravina and Siers, 2011) or dispute resolution in the workplace, a growing number of businesses are using it (Barlett, 2007; Chong, 2008; Moen & Allgood, 2009; Richard, Taylor, Barnett & Nesbit, 2002). Furthermore, coaching can be utilized to speed career learning (Parker et al., 2008) or to ensure long-term leadership (Parker et al., 2008; Boyatzis et al., 2006).

Regular, positive feedback is a widely established management and coaching strategy that helps employees stay engaged and perform better (Harter and Adkins 2015; Porath 2016; Zhang 2017; Yohn, 2019). Feedback satisfaction and professional progress are better predicted by more regular, informal conversation and feedback (Scott 2015).

2.8 System Thinking Approach

Complexity science, a relatively new approach, studies the relationship between parts that give rise to the collective behavior of a system and explains the interaction of the

system and the formation of relationships with its environment (Wood and Gidado, 2008). The concept of complexity can relate to any industry, however, there is little literature published in the domain of the construction industry. Complexity science introduces a new way to study regularities that differs from traditional science instead of studying the complexity of the world (Gidado and Wood, 2008). Merry and Kassavin (1995) describe that "complex systems are those systems, that self-organize themselves into states of greater complexity". Richardson et al. (2000) argue that a complex system is a system that consists of a large 26 entities which display a high level of interactivity. Complexity science is concerned with complex systems and problems that are dynamic and multi-dimensional. Unlike traditional "cause and effect" or linear thinking, complexity science is characterized by non-linearity (Wood and Gidado, 2008). There are different factors which are playing a vital role in increasing the complexity of the construction process such as fast construction working, budget constraints, quality control, construction site safety, prevention of disputes, technological advances, environmental degradation problems, and growing industry's fragmentation (Gidado, 1996). According to scientists and mathematicians, a system is considered 'complex' only when it consists of a multitude of interrelating elements. Baccarini (1996) argues that construction projects are complex and so is the construction process. Construction projects are characterized by the involvement of several stakeholders including clients, consultants, and contractors for a limited period. This involvement of different stakeholders at all levels of construction projects makes the construction process more complex.

Based on the systems philosophy, the idea of systems thinking holds that all human activity is an open system that is influenced by the environment (Vickers, 1970). Systems thinking is a method of comprehending reality that places more emphasis on

the connections between a system's components than on the components themselves (Sterman, 2000).

For analyzing and managing complex feedback networks, such as those seen in business and other social systems, a systems thinking paradigm is developed (Ackoff, 1999). Systems thinking is based on the discipline of systems dynamics (Forrester, 1961), which has a strong theoretical underpinning. Senge (2007) asserts that to "understand the dynamic complexity of social systems," the systems thinking perspective is essential. Systems thinking is a discipline for recognizing the underlying structure of complicated circumstances and differentiating between changes with high and low leverage (Sterman, 2000).

The organization may benefit greatly from applying and adapting the systems thinking principles. Comparing systems thinking to analytical or mechanistic thinking, the advantages of systems thinking for the organization are:

- a method of managing complex systems that places more emphasis on the whole, its constituent parts, and how those parts interact than on ostensibly separate, unrelated issues

and problems. The design of business systems affects how well they function, thus controlling them requires an understanding of how they work (Forrester, 1975).

- a specific language and set of tools that can be used to solve the most difficult organizational challenges, allow us to comprehend the dynamics and structure of complex systems, and create plans for increased success (Gharajedaghi, 2006).
- a novel method for formulating strategies, addressing problems, and identifying leverage points while always having the desired result, vision, or aim in mind an

improved method for incorporating novel concepts into the framework of systems (Warren, 2000).

- a fresh viewpoint can help managers analyze patterns and occurrences in their businesses and can help people respond to events and patterns in their lives in new and more effective ways (Sterman, 2000).
- a better approach to observing and comprehending what's happening in any organization and its surroundings. The interrelationships between pieces and various cause-and-effect cycles also grow simpler to comprehend as complex problems do (Senge, 1990).
- a capacity to actively shape circumstances and the environment rather than simply responding to changes in them (Kvedaravicius, 2006). a new perspective on life. It also serves as a worldview, which is a general viewpoint and comprehension of the universe (Haines, 1998).

2.8.1 CLD

To understand a real-world system, SD focuses on the structure and behavior of a real-world system across time using various cause-and-effect relationships and feedback loops to conceive it. The CLD is a useful tool for illustrating how multiple variables in a system are interconnected and representing a system's feedback structure (Sterman, 2000). The CLDs are made up of variables connected by arrows that indicate the causal relationships between them. Each causal connection is a line with an arrowhead that connects variables and has a positive (+) or negative (–) polarity. Polarities show how a variable change as a result of the change in another independent variable. A positive link suggests that the two variables move in the same direction (for example, if the independent variable rises, the dependent variable rises as well), whereas a negative link shows that the two variables move in opposite ways (i.e., if the independent

variable increases, the dependent variable decreases). Feedback loops are closed cause-and-effect chains in which

information about the consequence of activities is relayed back to generate more action (Sterman 2000).

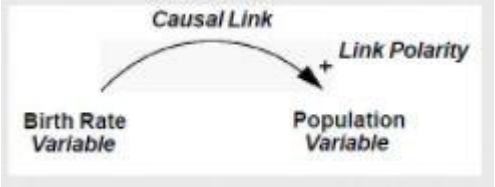

Figure 2.1 Causal link and polarity

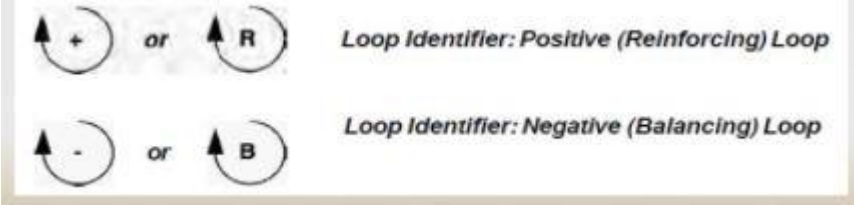

Figure 2.2 Positive and Negative loops

Construction activity is a gauge of a country's economic and social progress. In many underdeveloped countries, the size, quantity, and complexity of large-scale infrastructure projects have increased significantly over the years. The system thinking approach has opted for a better understanding of organizational dynamics and to deal with all the complexities involved in any project (Ogunlana et al., 2003).

2.9 Benefits and Barriers in the implementation of Agile Performance management:

2.9.1 Benefits to the implementation of Agile Performance management:

The following benefits were found from the review of the literature and are shown in respective categories.

Table 2.1 Benefits of Agile Performance Management

Sr. #	Benefits	Sources	Literature Score
	360 Degree Feedback		
1	Enhances Performance	(London and Beatty, 1993), (Junnonen and Karna, 2005), (McCarthy and Garavan 2001), (Rao and Chawla 2008), (Garavan et al., 1997), (Kanaslan and Iyem, 2016), (Edwards, 1996), (Mohapatra, 2015)	0.3333
2	Customer Satisfaction	(London and Beatty, 1993), (Junnonen and Karna, 2005), (Rafaai and Aziz, 2018), (Kärnä and Junnonen, 2005), (McCarthy and Garavan 2001), (Liviu et al., 2009)	0.2222
3	Encourages Employee Development	(London and Beatty, 1993), (Rao and Chawla 2008), (Liviu et al., 2009), (Edwards, 1996),	0.2222

		(Bracken et al., 2016), (Mohapatra, 2015)	
4	Leadership Development	(London and Beatty, 1993), (Edwards, 1996), (Bracken et al., 2016), (Mohapatra, 2015)	0.1481
5	Receptivity	(Junnonen and Karna, 2005), (Rao and Chawla 2008), (Mohapatra, 2015)	0.1111
6	Career Development	(McCarthy and Garavan 2001), (Garavan et al., 1997), (Edwards, 1996)	0.0889
7	Employee Involvement	(London and Beatty, 1993), (McCarthy and Garavan 2001), (Garavan et al., 1997), (Mohapatra, 2015)	0.0889
8	Employee Assessment	(McCarthy and Garavan 2001), (Mohapatra, 2015)	0.0741
9	Increases Self Awareness	(McCarthy and Garavan 2001), (Garavan et al., 1997), (Mohapatra, 2015)	0.0667
10	Identifies Training Programs	(London and Beatty, 1993), (Junnonen and Karna, 2005), (Edwards, 1996), (Mohapatra, 2015)	0.0889
11	Identifies strengths and weakness	(Garavan et al., 1997), (Mohapatra, 2015)	0.0444

12	Behavior Change	(London and Beatty, 1993), (McCarthy and Garavan 2001), (Rao and Chawla 2008), (Liviu et al., 2009), (Edwards, 1996), (Bracken et al., 2016)	0.0444
13	Knowledge Transfer	(Edwards, 1996), (Mohapatra, 2015)	0.0444
14	Reduces Bias	(Garavan et al., 1997)	0.0370
15	Multi Sources of Feedback	(Garavan et al., 1997)	0.0370
16	Increases Competitiveness	(London and Beatty, 1993), (Kärnä and Junnonen, 2005), (Garavan et al., 1997)	0.0222
17	Executive Development	(Garavan et al., 1997)	0.0222
18	Improves Reliability	(McCarthy and Garavan 2001), (Edwards, 1996)	0.0222
19	Skill Development	(Junnonen and Karna, 2005	0.0148
20	Employee Empowerment	(London and Beatty, 1993), (Rao and Chawla 2008)	0.0148
21	Improve Process	(London and Beatty, 1993)	0.0074
22	Increases Motivation	(McCarthy and Garavan 2001), (Garavan et al., 1997),(Edwards, 1996), (Mohapatra, 2015)	0.0889
	Communication		
1	Improves productivity	(Leje et al., 2019), (Bucăţa and Rizescu,	0.1852

		2017), (Hargie,2016), (Vasista and Abone 2018), (Onifade et al., 2018)	
2	Reduces cost	(Aulich, 2013), (Hargie,2016), (Vasista and Abone 2018), (Akinradewo et al., 2019), (Aladeloba et al., 2010)	0.1852
3	Improves workmanship	(Leje et al., 2019), (Hargie,2016), (Vasista and Abone 2018), (Akinradewo et al., 2019)	0.1481
4	Reduces project delay	(Leje et al., 2019), (Vasista and Abone 2018), (Akinradewo et al., 2019), (Aladeloba et al., 2010)	0.1481
5	Improves Workplace Relationship	(Vasista and Abone 2018), (Onifade et al., 2018), (Akinradewo et al., 2019)	0.1111
6	Better use of materials and equipment	(Leje et al., 2019), (Bucăţa and Rizescu, 2017)	0.0741
7	Reduces rework from unsatisfactory work done	(Leje et al., 2019), (Vasista and Abone 2018)	0.0741
8	Trust and transparency	(Hargie,2016), (Vasista and Abone 2018)	0.0741

9	Improves professional commitment	(Leje et al., 2019), (Hargie,2016), (Onifade et al., 2018)	0.0667
10	Improves Quality	(Aulich, 2013), (Hargie,2016), (Aladeloba et al., 2010)	0.0667
11	Decision making	(Aulich, 2013), (Bucăţa and Rizescu, 2017), (Vasista and Abone 2018)	0.0667
12	Source of Information	(Bucăţa and Rizescu, 2017), (Akinradewo et al., 2019), (Aladeloba et al., 2010)	0.0667
13	Increases organizational stability and flexibility	(Leje et al., 2019), (Vasista and Abone 2018)	0.0444
14	Better safety precautions	(Leje et al., 2019)	0.0370
15	Reduces complexity	(Vasista and Abone 2018)	0.0370
16	Reduces disputes	(Leje et al., 2019)	0.0222
17	Minimizes accident rates	(Leje et al., 2019)	0.0222
18	Reduces wastage of construction materials	(Leje et al., 2019)	0.0074
19	Team Building	(Akinradewo et al., 2019)	0.0074
	Coaching		
1	Goal Achievement	(Grover and Furnham, 2016), (McGuffinand Obonyo, 2010), (Rider, 2002)	0.1111

2	Self-Efficacy	(Grover and Furnham, 2016), (Jones et al., 2016)	0.0741
3	Personal Growth	(McGuffinand Obonyo, 2010), (Van, 2016)	0.0444
4	Learning	(McGuffinand Obonyo, 2010), (Jones et al., 2016)	0.0444
5	Better Work-life balance	(Wales, 2002), (Van, 2016)	0.0444
6	Better ability to manage	(Wales, 2002), (Van, 2016)	0.0444
7	Stress Management	(Grover and Furnham, 2016), (Wales, 2002)	0.0444
8	Enjoyment	(McGuffinand Obonyo, 2010)	0.0370
9	Increases Job Satisfaction		0.0222
10	Increases loyalty to the organization	(Grover and Furnham, 2016), (Van, 2016)	0.0222

2.9.2 Barriers to the implementation of Agile Performance management:

The following barriers were found from the review of the literature and are shown in respective categories:

Table 2.2 Barriers to Agile Performance Management

Sr. #	Benefits	Sources	Literature Score
	360 Degree Barriers		

1	Pressure on the employee's self-concept	(McCarthy et al., 2001), (London and Beatty, 1993)	0.1250
2	Too Much of a Focus on the Negative	(McCarthy et al., 2001), (London and Beatty, 1993)	0.1250
3	Time-Consuming Process	(McCarthy et al., 2001), (London and Beatty, 1993)	0.1250
4	Paucity of objective	(McCarthy et al., 2001), (Silverman et al., 2005), (Atwater et al., 2006)	0.1250
5	Employees insecurity	(McCarthy et al., 2001),	0.0625
6	Garners Dishonest Reviews (Participants will only say what you want to hear, rendering the feedback meaningless)	(McCarthy et al., 2001),	0.0625
7	Health implications	(McCarthy et al., 2001), (Atwater et al., 2006)	0.0625
8	Lack of understanding	(Silverman et al., 2005)	0.0625
9	Lack of resources	(Silverman et al., 2005)	0.0625
10	Hierarchical organizations	(McCarthy et al., 2001),	0.0375
11	Demotivation	(McCarthy et al., 2001),	0.0375
12	Inappropriate timing	(Silverman et al., 2005)	0.0375
13	Lack of Data	(McCarthy et al., 2001), (Atwater et al., 2006)	0.0125
	Communication Barriers		

1	Language barrier	(Ishaq et al., 2018), Akunyumu et al., 2019), (Radhika Kapur, 2018), (Yusof et al., 2020), (Ejohwom et al., 2017)	0.1875
2	Cultural barriers	(Akunyumu et al., 2019), (Radhika Kapur, 2018), (Ejohwom et al., 2017)	0.1875
3	Lack of teamwork	Ishaq et al., 2018), (Akunyumu et al., 2019),	0.1250
4	Semantic Barriers (misunderstanding between the two parties)	(Ishaq et al., 2018), (Radhika Kapur, 2018)	0.1250
5	Lack of trust	(Ishaq et al., 2018), (Ejohwom et al., 2017)	0.1250
6	Perceptual Barriers	(Ishaq et al., 2018), (Radhika Kapur, 2018)	0.1250
7	Organizational culture	(Xie et al., 2000), (Tai et al., 2009)	0.1250
8	Environmental Barriers	(Radhika Kapur, 2018), (Yusof et al., 2020)	0.1250
9	Personal Barriers	(Xie et al., 2000), (Yusof et al., 2020)	0.1250
10	Lack of access to information	(Akunyumu et al., 2019), (Xie et al., 2000), (Tai et al., 2009)	0.1125
11	Conflicting ideas	(Ishaq et al., 2018), (Ejohwom et al., 2017)	0.0750
12	Information filtering	(Akunyumu et al., 2019), (Ejohwom et al., 2017)	0.0750
13	Selfish interest	(Ishaq et al., 2018)	0.0625
14	Lack of open communication	(Ishaq et al., 2018)	0.0625

15	Interpersonal relationship	(Xie et al., 2000)	0.0625
16	Emotional Barriers	(Radhika Kapur, 2018)	0.0625
17	Physical Barrier	(Radhika Kapur, 2018)	0.0625
18	Psychological Barriers	(Radhika Kapur, 2018)	0.0625
19	Lack of communication technologies	(Tai et al., 2009), (Ejohwom et al., 2017)	0.1250
20	Adversarial Relationship	(Ishaq et al., 2018)	0.0375
21	Poor leadership	(Ejohwom et al., 2017)	0.0625
22	Poor listeners	(Ejohwom et al., 2017)	0.0375
23	Common goal	(Xie et al., 2000)	0.0125
24	Age Difference	(Ejohwom et al., 2017)	0.0125
25	Political/community interference	(Ejohwom et al., 2017)	0.0125
	Coaching Barriers		
1	Inadequate coaching	(Blackman et al., 2014), (Carter et al., 2015), (Carter et., 2017)	0.1875
2	Unclear Development Goals	(Blackman et al., 2014), (Carter et al., 2015)	0.1250
3	Fixed mindset	(Berg et al.,2016)	0.0625
4	Barriers associated with coaching program or process	(Carter et al., 2014)	0.0625
5	Coaching Experience	(Carter et., 2017)	0.0625
6	Lack of commitment	(Blackman et al., 2014)	0.0375
7	Cost/distance	(Blackman et al., 2014)	0.0375
8	Low self-awareness	(Berg et al.,2016)	0.0375
9	Coaching relationship	(Carter et al., 2014), (Carter et al., 2015), (Carter et., 2017)	0.0375
10	Coaching Model	(Carter et al., 2015)	0.0375

These benefits and barriers are ranked in Table 2.3 and according to their literature score, which was determined using a content analysis in which the impact of each benefit and barrier (high, medium, low) was appraised through a thorough review of the literature. Each impact is given a numerical value (high 5, medium 3, or low 1), and the impact with the highest frequency is chosen for each barrier. The following equation is used to determine the literature score:

$$Literature\ Score = Impact\ Score\ x\ \frac{Frequency}{Total\ no\ of\ papers\ X\ 5}$$

Equation#2.1

The next step is to convert this literature score into a normalized score by dividing the individual literature score of each benefit and barrier by the sum of the literature score. The normalized score is then arranged in descending order and the cumulative score is calculated. This technique is used for the elimination of less significant factors (Ullah et al., 2018).

Table2.3: Ranked Benefits via literature Review

Sr. #	Benefits	Literature Score	Normalized Score
1	Enhances Performance	0.3333	0.088235
2	Customer Satisfaction	0.2222	0.058824
3	Encourages Employee Development	0.2222	0.058824
4	Improves productivity	0.1852	0.04902
5	Reduces cost	0.1852	0.04902
6	Leadership Development	0.1481	0.039216
7	Improves workmanship	0.1481	0.039216

8	Reduces project delay	0.1481	0.039216
9	Receptivity	0.1111	0.029412
10	Improves Workplace Relationship	0.1111	0.029412
11	Goal Achievement	0.1111	0.029412
12	Career Development	0.0889	0.023529
13	Employees Involvement	0.0889	0.023529
14	Identifies Training Programs	0.0889	0.023529
15	Increases Motivation	0.0889	0.023529
16	Employee Assessment	0.0741	0.019608
17	Better use of materials and equipment	0.0741	0.019608
18	Reduces rework from unsatisfactory work done	0.0741	0.019608
19	Trust and transparency	0.0741	0.019608
20	Self-Efficacy	0.0741	0.019608
21	Increases Self Awareness	0.0667	0.017647
22	Improves professional commitment	0.0667	0.017647
23	Improves Quality	0.0667	0.017647
24	Decision making	0.0667	0.017647
25	Source of Information	0.0667	0.017647
26	Identifies strengths and Weaknesses	0.0444	0.011765
27	Behavior Change	0.0444	0.011765
28	Knowledge Transfer	0.0444	0.011765
29	Increases organizational stability and flexibility	0.0444	0.011765
30	Personal Growth	0.0444	0.011765
31	Learning	0.0444	0.011765
32	Better Work-life balance	0.0444	0.011765
33	Better ability to manage	0.0444	0.011765

34	Stress Management	0.0444	0.011765
35	Reduces Bias	0.037	0.009804
36	Multi Sources of Feedback	0.037	0.009804
37	Better safety precautions	0.037	0.009804
38	Reduces complexity	0.037	0.009804
39	Enjoyment	0.037	0.009804
40	Increases Competitiveness	0.0222	0.005882
41	Executive Development	0.0222	0.005882
42	Improves Reliability	0.0222	0.005882
43	Reduces disputes	0.0222	0.005882
44	Minimizes accident rates	0.0222	0.005882
45	Increases Job Satisfaction	0.0222	0.005882
46	Increases loyalty to the organization	0.0222	0.005882
47	Skill Development	0.0148	0.003922
48	Employee Empowerment	0.0148	0.003922
49	Improve Process	0.0074	0.001961
50	Reduces wastage of construction materials	0.0074	0.001961
51	Team Building	0.0074	0.001961

Table2.4: Ranked Barriers via literature Review

Sr. #	Barriers	Literature Score	Normalized Score
1	Lack of open communication	0.1875	0.04918
2	Cultural barriers	0.1875	0.04918
3	Inadequate coaching	0.1875	0.04918
4	Pressure on the employee's self-concept	0.125	0.032787

5	Too Much of a Focus on the Negative	0.125	0.032787
6	Time-Consuming Process	0.125	0.032787
7	Paucity of objective	0.125	0.032787
8	Lack of teamwork	0.125	0.032787
9	Lack of resources	0.125	0.032787
10	Lack of trust	0.125	0.032787
11	Perceptual Barriers	0.125	0.032787
12	Organizational structure	0.125	0.032787
13	Environmental Barriers	0.125	0.032787
14	Personal Barriers	0.125	0.032787
15	Lack of communication technologies	0.125	0.032787
16	Unclear Development Goals	0.125	0.032787
17	Lack of access to information	0.1125	0.029508
18	Conflicting ideas	0.075	0.019672
19	Information filtering	0.075	0.019672
20	Employee's insecurity	0.0625	0.016393
21	Garners Dishonest Reviews	0.0625	0.016393
22	Health implications	0.0625	0.016393
23	Lack of understanding	0.0625	0.016393
24	Semantic Barriers	0.0625	0.016393
25	Selfish interest	0.0625	0.016393
26	Language barrier	0.0625	0.016393
27	Interpersonal relationship	0.0625	0.016393
28	Emotional Barriers	0.0625	0.016393
29	Physical Barrier	0.0625	0.016393
30	Psychological Barriers	0.0625	0.016393
31	Poor leadership	0.0625	0.016393
32	Fixed mindset	0.0625	0.016393
33	Barriers associated with coaching program or process	0.0625	0.016393

34	Coaching Experience	0.0625	0.016393
35	Hierarchical organizations	0.0375	0.009836
36	Demotivation	0.0375	0.009836
37	Inappropriate timing	0.0375	0.009836
38	Adversarial Relationship	0.0375	0.009836
39	Poor listeners	0.0375	0.009836
40	Lack of commitment	0.0375	0.009836
41	Cost/distance	0.0375	0.009836
42	Low self-awareness	0.0375	0.009836
42	Coaching relationship	0.0375	0.009836
44	Coaching Model	0.0375	0.009836
45	Lack of Data	0.0125	0.003279
46	Common goal	0.0125	0.003279
47	Age Difference	0.0125	0.003279
48	Political/community interference	0.0125	0.003279

Chapter 03

RESEARCH METHODOLOGY

3.1. Introduction

The methodology adopted in this research uses a system thinking approach that is dependent on the literature data as well as field data. The literature data were acquired from different research articles after a thorough literature review and the field data was collected via questionnaire-based surveys. The research is carried out in various phases. The diagrammatic representation for the methodology of this study is presented in figure 3.1 and all four stages are explained in detail as follows:

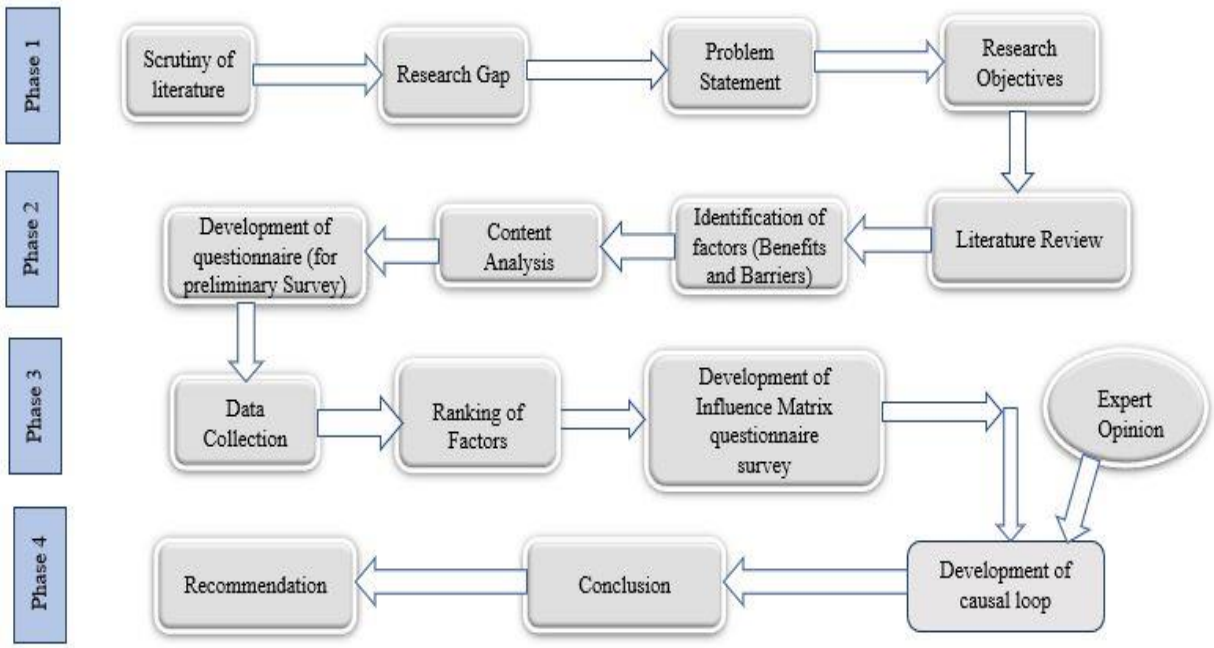

Figure 3.1: Flow Chart of Research Methodology

3.1.1 Phase 1

This phase involved basic steps such as finding the research gap and research topic. The scrutiny of literature was done from research articles, books, and conference papers for establishing this gap. After the development of the problem statement, the objectives of the research were identified. This helped in answering certain questions such as work already done on this topic. Why is this research carried out? What would be its benefits to the construction industry? What will be its relevance to national needs?

3.1.2 Phase 2

In the second stage, the detailed literature review was performed with a twofold approach. Firstly, the benefits of agile performance management were identified by critically examining the literature and a total of 51 benefits were identified. Secondly, the barriers to the implementation of agile performance management were also identified from the literature and a total of 48 factors were identified. Content analysis has conducted the selection of the most important benefits and barriers.

The content analysis consisted of literature analysis and preliminary survey analysis. In the literature analysis, the identified benefits and barriers were ranked according to their literature

score obtained through a content analysis where the impact of each benefit and barrier (high, medium, low) was assessed through a detailed review of the literature. A quantitative number was assigned to each impact (1=Low, 3=Medium, and 5=High) (Ullah et al., 2016). The highest frequency impact was selected for each benefit and barrier. Hence, the literature score was calculated for each benefit and barrier by finding the product of its frequency and impact score, respectively. The literature score was

also normalized before using it for further analysis. The cumulative score was then determined after the normalized score was arranged in descending order. This technique is used for the elimination of less significant factors (Ullah et al., 2017).

After literature analysis, a preliminary survey was performed to include input from industry experts as well as to rank these benefits and barriers. A preliminary survey questionnaire was drafted and then circulated to experts from developing countries. Taking responses through emails and social media is a quite quick and suitable way for research purposes (Saunders et al., 2009). To get a good response rate considerable efforts were made to prepare the questionnaire that the respondents would be comfortable answering. It was made clear and precise for the respondents to fill in, as suggested by (Wu et al., 2011). 137 responses were collected for this preliminary survey from different developing countries of the world. After an initial evaluation,30 responses to the questionnaire were further analyzed. The details of the preliminary survey are shown in table 3.1 as follows:

Table 3.1: Preliminary Survey Respondents' Demographics

Understanding of Agile Performance Management		**Professional Experience**		**Level of Education**		**Country of Work**	
Moderate	29	6-10	20	Doctorate	2	Pakistan	18
Exceptional	1	11-15	6	Masters	17	India	2
		16-20	1	Bachelors	10	UAE	1
		21 and above	3	Diploma	1	Bangladesh	7
						Nepal	1

			Saudi-Arabia	1
TOTAL	**30**			

3.1.3 Phase 3

After collecting responses, Cronbach's alpha test coefficient method was applied to address the reliability of the data. If this value is greater than 0.7, the data is reliable (Gliem et al., 2003). Further, if the value is greater than 0.9, the data is highly consistent for use. The value of Cronbach's Alpha came out to be 0.97 for benefits and 0.98 for barriers which shows that the data is reliable for further analysis.

Based on a preliminary survey, the field score was also calculated and then normalized. Different weighting ratios of 30/70,40/60,50/50,60/40 and 70/30 to field experts and literature respectively were statically tested using one-way ANOVA and rank correlation. The p-value of 0.9 for both

benefits and barriers and correlation values ranging between 0.98-0.99 and 0.89-0.99 for benefits and barriers respectively suggest that there is no significant difference between various decision weight combinations. The weighting of 0.4 for the literature score and 0.6 for the field score was applied since the literature represents cumulative wisdom from both the developed and developing countries, but owing to the focus of this study, the expert opinion from the developing countries was given more priority, in line with Ahmad et al. (2018).

A 60/40 weighting distribution (60% = Field, 40% = Literature) was adopted. Based on the collective score of the field and literature data, a final ranking of benefits and barriers was established, as presented in table 3.2 and table 3.3 respectively. 20 benefits out of 51 and 19 barriers out of 48 were selected.

Table 3. 2: Ranking of benefits on basis of literature and field score in view of developing countries

Sr.#	Benefits	60R/40L	Cumulative Score
1	Enhances Performance	0.047354419	0.047354
2	Customer Satisfaction	0.035589713	0.082944
3	Encourages Employee Development	0.035589713	0.118534
4	Improves productivity	0.031668145	0.150202
5	Reduces cost	0.028653069	0.178855
6	Leadership Development	0.027746576	0.206602
7	Improves Quality	0.027746576	0.234348
8	Reduces project delay	0.027746576	0.262095
9	Receptivity	0.023825007	0.28592
10	Improves Workplace Relationship	0.023825007	0.309745
11	Goal Achievement	0.023825007	0.33357
12	Career Development	0.021472066	0.355042
13	Increases Motivation	0.021472066	0.376514
14	Employees Involvement	0.021472066	0.397986
15	Identify Training Programs	0.021472066	0.419458
16	Employee Assessment	0.019903439	0.439362
17	Better use of materials and equipment	0.019903439	0.459265
18	Reduces rework from unsatisfactory work done	0.019903439	0.479168
19	Trust and transparency	0.019903439	0.499072
20	Self-Efficacy	0.019903439	0.518975

Table 3. 3: Ranking of barriers on basis of literature and field score in view of developing countries

Sr.#	Barriers	60R/40L	Cumulative Score
1	Cultural barriers	0.032348187	0.032348187
2	Inadequate coaching	0.032348187	0.064696375
3	Too Much of a Focus on the Negative	0.030016163	0.094712538
4	Time-Consuming Process	0.030016163	0.1247287
5	Paucity of objective	0.030016163	0.154744863
6	Lack of Resources	0.030016163	0.184761025
7	Lack of Open Communication	0.028122835	0.212883861
8	Pressure on the employee's self-concept	0.02579081	0.238674671
9	Lack of teamwork	0.02579081	0.264465481
10	Lack of trust	0.02579081	0.290256292
11	Organizational structure	0.02579081	0.316047102
12	Environmental Barriers	0.02579081	0.341837913
13	Personal Barriers	0.02579081	0.367628723
14	Lack of communication technologies	0.02579081	0.393419534
15	Unclear Development Goals	0.02579081	0.419210344
16	Language barrier	0.023458785	0.44266913
17	Poor leadership	0.023458785	0.466127915
18	Perceptual Barriers	0.021565458	0.487693373
19	Conflicting ideas	0.020544909	0.508238282

Then, the collection and analysis of data were performed. After shortlisting the final benefits and barriers through content analysis, they were then used for the final questionnaire survey. As the area of study of this research was limited to developing

countries, the questionnaire was only circulated to developing countries of the world. A questionnaire survey is one of the main sources of gathering data in this research work. To solicit the opinion of expert professionals in agile performance management in the construction industry, a structured online questionnaire survey was used for gathering the required data. Questionnaires are used to collect data by asking people to respond to the same set of questions. The data collected is usually analyzed by using different computer tools and techniques (Saunders, 2011). An online questionnaire survey is somehow the easiest and fastest way the collection of primary data, globally. It enables the researcher to reach those respondents who are at a far geographical distance in a shorter period. While taking into consideration all the challenges and limitations, a great deal of time and effort was invested in the preparation of the questionnaire survey.

For collecting the survey data, an influence matrix questionnaire was developed through Google Docs (Rasul et al., 2019) comprising two sections. The first section inquired about personal information including the respondent's designation, academic qualification, years of professional experience, the field of work, type of organization, and country of work. After the initial information, the respondents were then questioned to rate the influence of relation of each benefit of agile performance management with all barriers affecting the adoption of agile performance management on a three-point Likert scale (1=Low, 3=Medium, and 5=High) and also to identify the polarity of the same. The questionnaire was floated to developing countries across the globe through online social and professional community platforms such as Facebook®, LinkedIn®, Email, etc. The survey was conducted between the months of June-August 2019, and as result,121 responses were gathered giving a 61% response rate. The survey was conducted from September 2021-February 2022 and consequently, a total

of 60 responses were gathered from 12 different countries. As generally acknowledged, a minimum sample size of 30 or above is required to satisfy the central limit theorem (Chan et al., 2018). Once the data was collected, it was then arranged and responses were evaluated for reliability and consistency using basic statistical tools. The Cronbach's coefficient alpha method was used for measuring the reliability and consistency of collected data. The minimum acceptable value for Cronbach's alpha is 0.7 (Wang et al., 2019). The collected data had a Cronbach's alpha value of 0.97 which represented the data is reliable and consistent. After the evaluation of the collected survey data, the Relative Importance Index (RII) method was adopted to rank the important relations. The RII is a statistical method that is used to rank factors (Hossen et al., 2015, Muneeswaran et al., 2018). Equation (1) was used to calculate the RII as follows:

$$\mathbf{RII = \Sigma W / (A*N)}$$

Equation#3.1

where W = weight assigned on the Likert scale (ranging from 1 to 5),

A = maximum weight assigned on the scale (i.e., 5 in this study),

N = total number of respondents (i.e., 62 in this study), ss

and RII has a minimum and maximum value of 0 and 1, respectively.

The value of RII is directly related to the importance of the factor or relation or category. If the RII value of any factor is close to 1, it means that the factor is important and vice versa. According to Rooshdi et al. (2018), the RII has been categorized into five levels as RII scores ranging from 0 to 0.2 as 'Low', 0.2 to 0.4 as 'Medium-Low', 0.4 to 0.6 as 'Medium', 0.6 to 0.8 as 'High-Medium' and 0.8 to 1 as 'High'. To reduce

the data set, relationships having RII ≥ 0.8 were considered as most important. The collected survey data revealed 26 relations between the barriers and factors as most important (i.e., RII ≥ 0.8) and hence considered for further analysis using Systems Thinking. These 20 important relations were then used for further analysis using Systems Thinking. Table 3.4 shows the final shortlisted benefits and barriers.

Table 3. 4: Final Shortlisted Benefits and Barriers

Sr. #	Impacted Factor	Impacting Factor	RII
1	Enhances Performance	Too Much of a Focus on the Negative	0.99
		Paucity of objective	0.99
		Lack of Resources	0.95
		Lack of trust	0.98
2	Customer Satisfaction	Lack of Resources	0.98
		Pressure on the employee's self-concept	0.99
		Poor leadership	0.83
3	Encourages Employee Development	Lack of Open Communication	0.97
		Lack of teamwork	0.81
		Poor leadership	0.99
4	Improves productivity	Time-Consuming Process	0.94
		Pressure on the employee's self-concept	0.96
5	Leadership Development	Hierarchical Organization	0.98
		Poor leadership	0.98
6	Improves Quality	Poor leadership	0.98

7	Improves Workplace Relationship	Lack of Open Communication	0.83
		Lack of teamwork	0.8
8	Goal Achievement	Too Much of a Focus on the Negative	0.99
		Lack of trust	0.83
9	Career Development	Hierarchical Organization	0.86
		Poor leadership	0.8
10	Increases Motivation	Pressure on the employee's self-concept	0.86
11	Employees Involvement	Lack of Open Communication	0.83
		Lack of trust	0.81
12	Identifies Training Programs	Lack of Open Communication	0.89
		Lack of trust	0.8

3.1.4 Phase 4

The final stage of research work was the establishment of a system thinking approach. The final shortlisted 26 relations (as shown in table 3.4) were then used for developing the causal loop diagram indicating the significant loops. The causal loop diagram was developed using VENSIM® software. The process of developing CLD was a trial and error, repetitive and frequentative practice where all variables were connected in relation and arranged using professional acumen. In the diagram, arrows were used to connect the variables directing their impact. All arrowheads were assigned a polarity that shows the nature of the relationship between the two variables. A negative polarity (-) indicates an inversely proportional relationship (i.e. Increasing the independent variable decreases the dependent variable and vice versa) whereas a positive polarity

(+) depicts the directly proportional relationship between the two (i.e. Increasing the independent variable increases the dependent variable and vice versa.). The closed chains of cause and effect known as feedback loops were identified as reinforcing or balancing loops. This subsequently led to discussion and development of conclusions considering the project objectives and analysis conducted.

3.2 Demographics of Survey

The purpose of the primary survey was to target construction industry professionals including general managers, project managers, construction managers, contract specialists, design engineers as well as academicians serving in different parts of the world. The responses from Doctorate holders were 5%, from M.Sc. degree holders was (66.67%), from Bachelor's degree holders was 25% and from diploma degree holders was 3.33%, showing that 71.7% (66.7% + 5%) of the responses came from highly qualified professionals. Most of them were experienced in the range of 6 to10 years (31.67%) while 13.33%of them had professional experience of 21 years or above and 25.00% had 11 to 15 years. The majority of the respondents worked in Contractor organizations 41.67%while professionals from Client (18.33%) and Consultant organizations (16.67%) were also found in abundance. One of the questions asked each respondent about their level of understanding of the topic, to which the majority of the results revealed moderate to advanced understanding, which corroborates the quality of the data. Table 3.5 provides information regarding respondent profiles.

Table 3. 5: Detailed Survey Respondents' Demographics

Profile		**Frequency**	**Percentage**
Highest Academic Qualification	**Total Responses=60**		
	Bachelors	15	25.00%

	Masters	40	66.67%
	Doctorate	3	5.00%
	Diploma Holder	2	3.33%
Professional Experience	**Total**	**60**	**100.00%**
	1 to 5	13	21.67%
	6 to 10	19	31.67%
	11 to 15	15	25.00%
	16 to 20	5	8.33%
	21 and above	8	13.33%
Organization Type	**Total**	**60**	**100.00%**
	Client	11	18.33%
	Contractor	25	41.67%
	Consultant	10	16.67%
	Specialty Contractor	1	1.67%
	Academia	2	3.33%
	Supplier	2	3.33%
	Other	9	15.00%
	Total	**60**	**100.00%**
Understanding of Agile Performance Management	Exceptional	9	15%
	Moderate	44	73.33%
	Slight	4	6.67%
	Neutral	3	5%
	Total	**60**	**100%**

3.2.1 Regional categorization of Respondents

A total of 60 survey responses were gathered that included 50% national and 50% international responses. Major countries that participated in the survey include Pakistan, India, Bangladesh, Afghanistan, UAE, Iran, Nigeria, Saudi Arabia, Kenya, and others as shown in Figure 7. All the responses were collected from third-world economies.

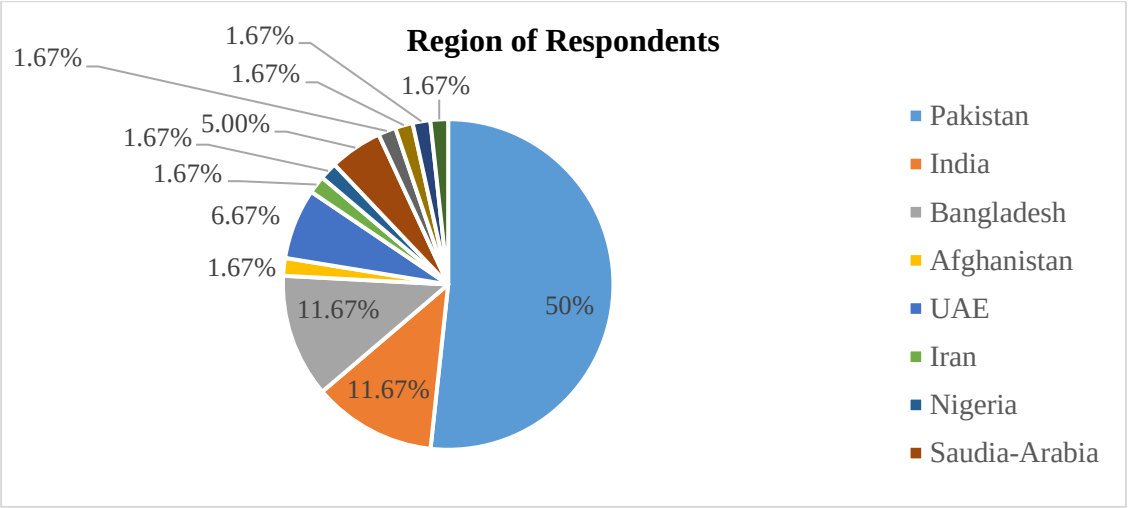

Figure 3.2: Regional Distribution of Respondent

3.2.2 Academic Qualification of Respondents

Responses were made by construction professionals having different academic backgrounds. Fig. 8 explains the respondents' highest academic qualifications: Construction professionals having professional engineering degrees were 15 (25%), with further masters were 40 (66.67%). Moreover, those having a doctorate level of engineering education were 3(5%). The construction professionals in senior positions but with only a Diploma of Civil Engineering numbered 2 (3.33%) of the total 121 respondents.

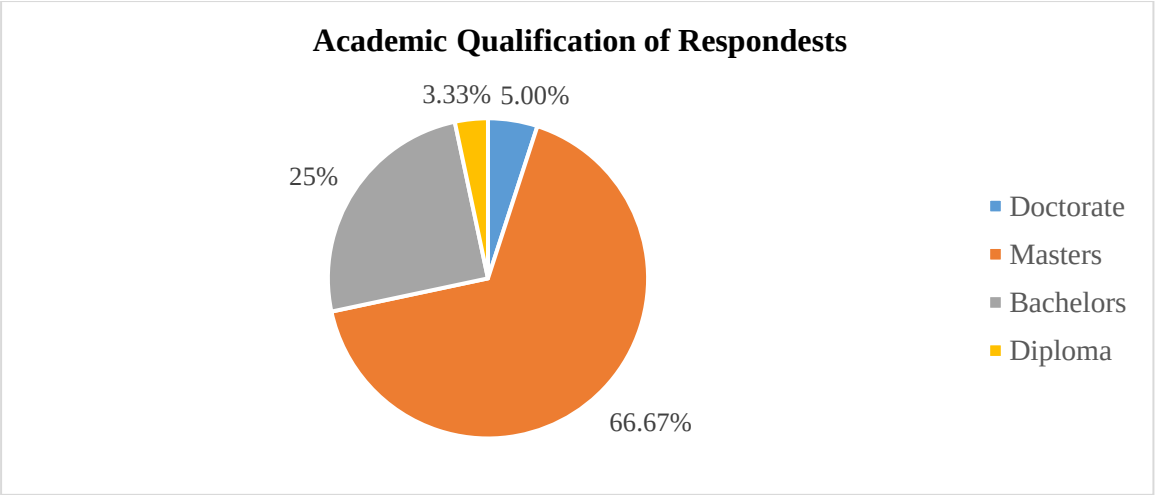

Figure 3.3: Academic Qualification of Respondent

3.2.3 Professional Experience of Respondents

The respondents had varying years of professional experience. Fig. 9 demonstrates that 13 (21.67%) of respondents carried up to 5 years of experience, while the next majority 19 (31.67%) had between 6-10 years of experience. Moreover, 15 (25.00%) respondents had 11-15 years, 5 (8.33%) respondents had 16-20 years, and 8 (13.33%) respondents had more than 20 years of professional experience in the construction industry.

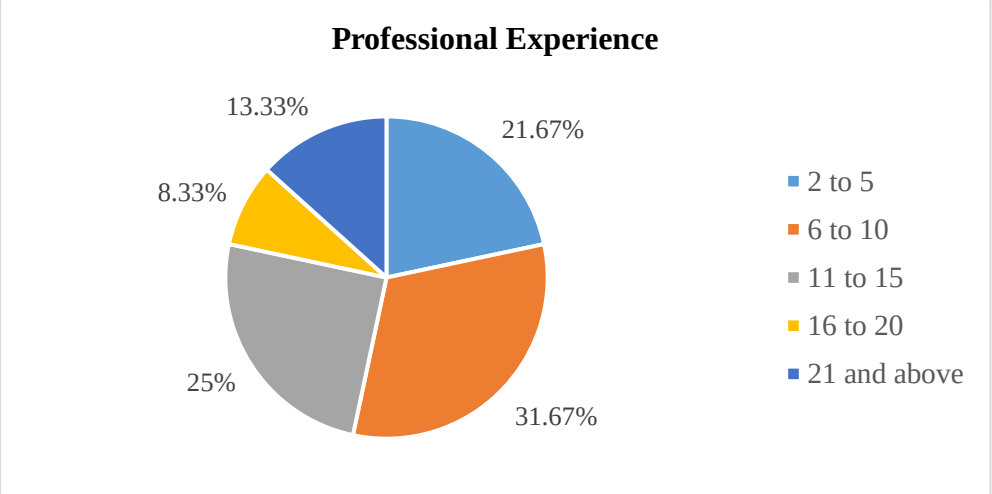

Fig 3.4: Professional Experience of Respondent

3.2.4 Organization Role of Respondents

Another classification considered for the 121 respondents was their organization's role in the construction industry. Fig 10 shows that 11 (18.33%) respondents belong to client organizations, 10 (16.67%) to consultants, and 25 (41.67%) to principal contractor organizations. The remaining respondents are suppliers (3.33%), specialist contractors (1.67%), and academicians (3.33%).

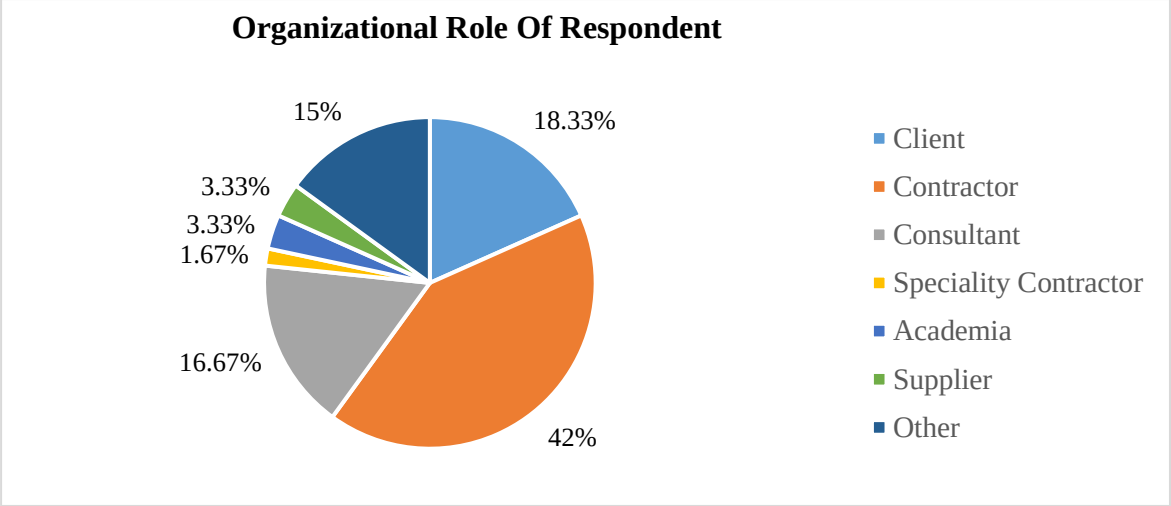

Figure 3.5: Organizational Role of Respondent

3.2.5 Subject Understanding of Respondents

The respondents were asked about their understanding of agile performance management in the construction industry. Out of 60 respondents, 9(15%) stated that they had Exceptional knowledge about the subject, 44 (73.333333%) checked moderate, 4 (6.67%) checked slightly while only 3 (5%) respondents stated that they had a neutral understanding of the subject.

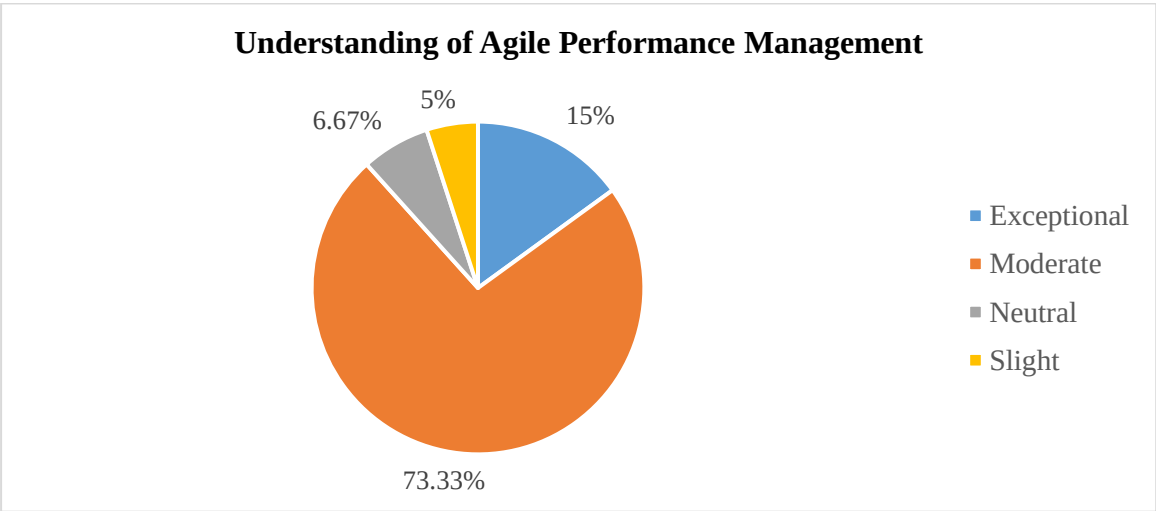

Figure 3.6: Understanding of Agile Performance Management

Chapter 04

RESULTS AND ANALYSIS

4.1 Causal loop framework development:

Causal loop framework development. The causal loop diagram illustrates 6 important reinforcing and balancing loops described below

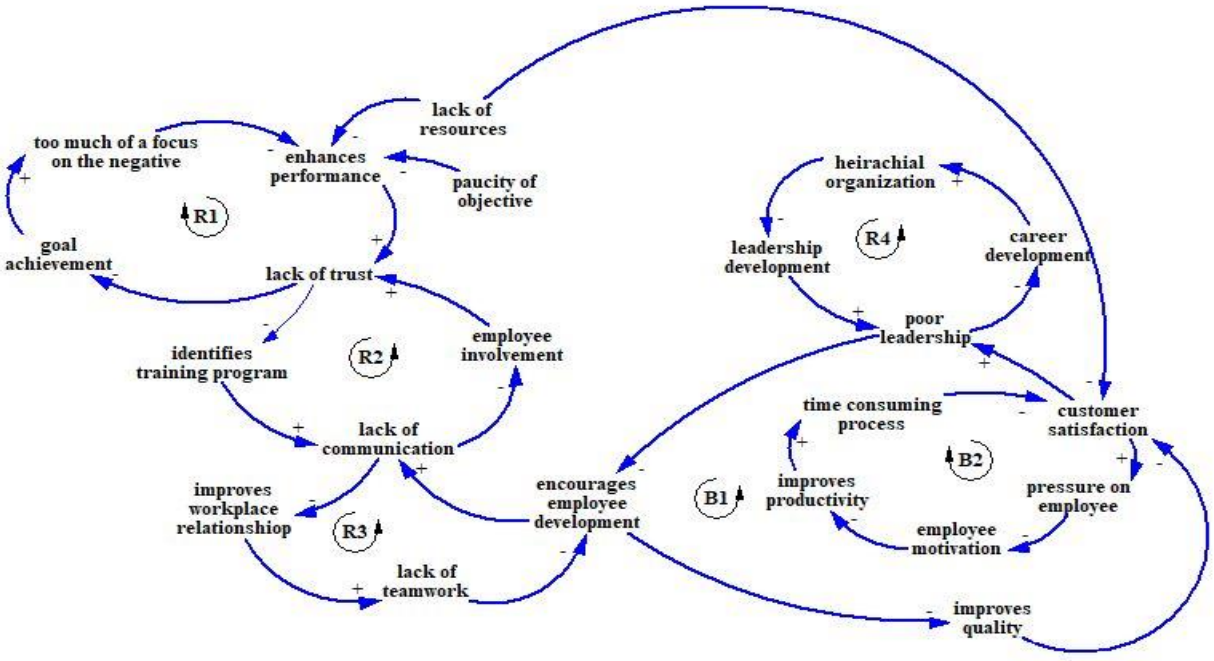

Figure 4.1: Causal loop framework

4.1.1 Reinforcing Loop R1

Loop R1 indicates that an increase in a negative work environment (too much focus on the negative) would lead to a decrease in the performance of an employee. Employee morale will be affected by receiving negative feedback and this could spill over into employee performance. This would increase the lack of trust. Employees will become distrustful of one another, get into arguments, and neglect their duties. As a result, they will fail to achieve their goals. When an employee will not meet their goals, this will result in depression, anxiety, stress, and physical symptoms, such as muscle pain and migraines. These issues will negatively impact work performance and affect job outcomes. As a consequence, this would increase the negative environment.

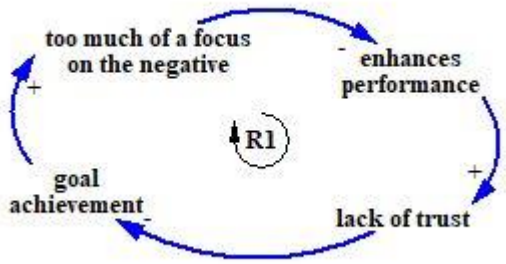

Figure 4.2: Reinforcing Loop R1

4.1.2 Reinforcing Loop R2:

This loop implies that an increase in the lack of trust would lead to a decrease in the identification programs for the employee. Any successful connection, whether it be personal or professional, is built on trust, which is very difficult to restore once it has been shattered. Employees who feel they can't rely on each other or their leadership

experience a sense of insecurity and a sense that no one has their back. As a result, they focus more on job searching and self-preservation than on doing their jobs well. As a result, team members withhold information from one another due to a lack of trust and transparency in communication. If team members don't trust one another, they'll keep important knowledge to themselves, which can obstruct progress and interfere with other people's jobs. When there is little communication in the workplace, there will be less involvement of implies which would eventually increase the lack of trust.

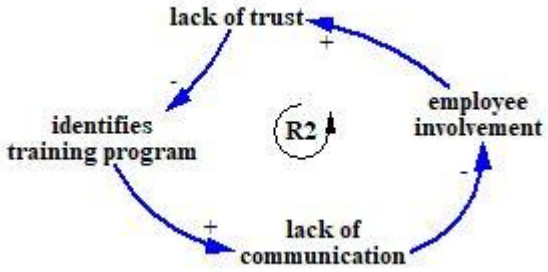

Figure 4.3: Reinforcing Loop R2

4.1.3 Reinforcing Loop R3:

Loop R3 indicates that an increase in lack of communication would lead to a decrease in workplace relationships. Employees who lack communication are more likely to trust rumors and form incorrect conclusions. Poor communication not only encourages conflict but also affects employee morale and productivity. This would result in a lack of teamwork. Delays, higher expenses, and more risk might result from poor team composition. When there is little teamwork, this would lead to a decrease in innovative ideas and strong performance. As a result, this would reduce the decrease in employee development.

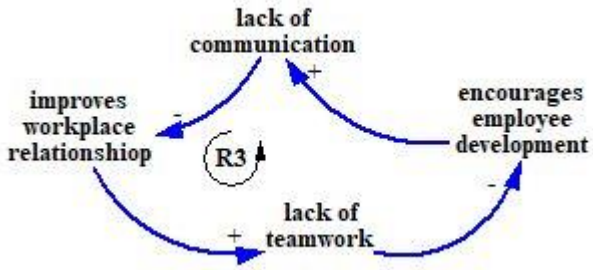

Figure 4.4: Reinforcing Loop R3

4.1.4 Reinforcing Loop R4:

Loop R4 indicates that an increase in Hierarchical structures in the organization would lead to a decrease in leadership development. Hierarchical organizations concentrate authority and power at the highest possible levels. This may occasionally lead to issues. Instead of making decisions on big-picture issues, planning, and providing leadership, the owner will be caught up in the day-to-day operations, making decisions about things that are best left in the hands of those closest to the situation. The decrease in leadership development would show the poor leadership in the organization. There is no denying that employees desire promotions that show advancement and include a pay increase. Poor leadership in the organization would result in a decrease in career opportunities for the employee. This would lead to the result that it is a hierarchy in the organization.

Figure 4.5: Reinforcing Loop R4

4.1.5 Balancing Loop B1:

This loop indicates that poor leadership in the organization would result in a decrease in employee development. Poor leadership inhibits the development of synergy and may result in fragmented departments and work roles. This implies that each employee disregards the significance of his or her contribution to accomplishing company goals. Learning and development opportunities improve productivity and quality. According to Indeed, giving employees the chance to advance their knowledge and abilities boosts their confidence and enables them to execute tasks more successfully and efficiently. The decrease in employee development would result in a decrease in quality that leads to a decrease in customer satisfaction. Customer satisfaction will be negatively impacted by poor leadership.

Figure 4.6: Balancing Loop B1

4.1.6 Reinforcing Loop B2:

This loop indicates that an increase in process time would lead to a decrease in customer satisfaction. This would increase pressure on the employee More work will have to be performed by the same employee, so work pressure will go up. As a result, employee motivation will be dropped. Lower motivation increases absenteeism and sick days. This would result in a decrease in productivity which leads to an increase in processing time.

Figure 4.7: Balancing Loop B2

4.2 Loop Analysis

A thorough criterion for loop classification is provided by the speeds and magnitudes of influence on system outputs. This categorization serves as a filtering tool to make it easier to prioritize crucial actions. The influences of all loops in the CLD were therefore identified for their strength and speed based on expert interviews and were given priority in the following order; fast - strong, fast - weak, slow - strong, slow - weak (Powell et al., 2016). Table 10 below summarizes these results for each feedback loop

including directly influenced performance indicators. This can assist decision-makers and management by assisting them on how to manage the complexity of APM in their projects and provides an extensive analysis of the factors influencing the operating mechanisms of the system i.e., performance.

Reinforcing loops have a resonating influence which exhibits a continuing effect while balancing loops have a decaying effect which exhibits decaying change over time. Loops R2 and R3 are therefore considered critical since they carry a strong, fast, and reinforcing influence, whereas B1 and B2 are less crucial followed by R4 and R1.

Before proceeding on to conclude the study, confirming the credibility of the results, and hence validation of the causal loop diagram was ensured using the member checking technique (also known as respondent validation) (Birt et al., 2016). The CLD was shared back with the participants of the expert opinion session for verification and to assess if the dependencies still resonate with their practical experiences. Each participant was involved in the interpretation of data where they validated the relationships as were perceived by them during the initial interview sessions which further enhanced the trustworthiness of the results

This can assist decision-makers and management by assisting them on how to manage the complexity of APM in their projects and provides an extensive analysis of the factors influencing the operating mechanisms of the system.

Table 4.1 Loop analysis results

	Variables						Loop Prioritization		
Loop	**#1**	**#2**	**#3**	**#4**	**#5**	**#6**	**Speed of Influence**	**Strength of Influence**	**Nature of Influence**
R1		x					Fast	Strong	Reinforcing
R2				x			Fast	Strong	Reinforcing
R3					x		Fast	Strong	Reinforcing
R4						x	Slow	Strong	Reinforcing
B1	x						Fast	Strong	Self-balancing
B2			x				Fast	Strong	Self-balancing

Chapter 05

CONCLUSIONS AND RECOMMENDATIONS

Agile performance management is growing more popular in the modern period, and organizations should switch to agile for continuous delivery and speedier development. Our study's conclusions indicated that annual performance management has flaws. It is necessary to have a better performance management system for construction due to constraints and inefficiencies. I've underlined the suggestions that could be taken to make it appropriate. The criteria used to evaluate performance should be both subjective and objective. Teams should have mutually beneficial objectives, and members should concentrate on accomplishing them. Individual goals should represent a culture of reflection and development and be a subset of team goals.

When performance management is a continual process as opposed to an annual exercise, it is most effective. Employees like receiving fast feedback on their work because it increases retention, trust, engagement, and connectedness. Organizations should promote more frequent communication for the successful completion of a construction project. Additionally, coaching is a useful technique for improving individual performance as well as project team member performance and raising the likelihood that projects will succeed.

The aim is to address all perspectives of agile performance management, minimizing the complexities in terms of adoption of APM, this research identifies the significant barriers causing hindrance in its adoption and their effects on benefits. The uniqueness of this study lies in the development of a causal loop diagram.

A total of 20 benefits and 19 barriers were taken from the literature. Data were later collected from the industry on the extracted factors to present the industry trends

regarding their perceived criticality because of various developing countries. The top 20 benefits and 19 barriers were incorporated into the influence matrix questionnaire using a 60/40 ratio after the industry and literature scores were combined. Out of 380 relationships in the field, experts verified 26 links, which were then used to develop a CLD depicting a clear picture of interconnections among the identified benefits and barriers. The developed causal loop diagram comprises four reinforcing and two balancing loops. The CLD created in this study is an illustration of a complex system with a total of six feedback loops that help apprehend the mechanisms that influence project performance.

Lack of trust, lack of communication, and poor leadership are the most critical barriers to agile performance management that are also mutual factors among various loops.

- **Limitations**

This study contains some limitations that were primarily brought on by a lack of funding and time, just like every other scientific study. Since the data were gathered from underdeveloped nations, the outcomes may have been considerably different if they had been gathered globally. Another drawback resulted from the fact that, because it was a detailed questionnaire, several challenges were encountered when data collection was done independently by both managers and employees. It was difficult to persuade many employees, who were even reluctant to complete the questionnaire. Like every other research, this one had the drawback of having respondents who may not have given the data their full attention, tainting the findings. There was also a chance for error, in addition to the likelihood that the respondents may not have had specific expertise about the subject.

- **Recommendation**

- First, it is advised that managers conduct one-on-one planning meetings with their employees at the beginning. Work standards should be reasonable, attainable, and set at a level that is feasible for the ordinary employee to reach while working under typical working circumstances. The management and his or her subordinate must agree on the goals and objectives before signing the annual performance agreements.
- Second, management should make sure that there are open channels of communication, both from the top down and from the bottom up. For instance, a quarterly open discussion meeting where staff members can voice their problems and accomplishments from the previous quarter. This will foster an atmosphere of respect and cooperation.
- Third, it is advised that negative staff member feedback should be given by managers in a constructive way rather than one that can make them feel demoralized. Managers should avoid personalizing the issue at hand and instead concentrate on it. Together, managers and staff members should endeavor to find solutions to any problems that can impair an employee's performance.
- Fourth, management must participate in training on how to oversee the work of their staff. Before establishing any performance standards, personal goals, or objectives with their subordinates, they should also be fully aware of the Department's performance management system and how it operates.
- Fifthly, it is advised that managers give their staff members the tools they need by sending them on training and coaching programs that are appropriate for their existing positions at least four to five times a year. Employees' working skills will be enhanced, and this will prepare them for the next phase of their careers.
- Sixth, instead of waiting for the appraisal review, managers are advised to meet with their staff members once a month to discuss progress. Any minor difficulties that

might come up throughout an employee's everyday routine would be resolved by doing this.

- Finally, it is advised that employees be appropriately compensated for their efforts. For instance, sending a simple email of appreciation to an employee for a job well done will dramatically increase their motivation since it satisfies the universal need for recognition. Additionally, management needs to put more effort into raising employee morale and fostering a better workplace. Employees that are content with their jobs are more likely to be productive than unhappy ones.

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