CAPITAL UNIVERSITY OF SCIENCE AND TECHNOLOGY, ISLAMABAD

Impact of Challenging Goals on Project Performance with Mediating Role of Knowledge Creation and Moderating Role of Self-Efficacy

by

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I would like to dedicate this work to my beloved parents and siblings for their unconditional love and support.

CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY
ISLAMABAD

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Abstract

The focus of this study is to explore the impact of challenging goals on project performance with mediating role of knowledge creation and moderating role of self-efficacy. The context of this study is power plant projects in Pakistan. Data is collected from 281 employees and project managers working on different plants under various power plant projects. Current study results indicate that a positive significant relationship exist between challenging Goals and project performance. The findings show that mediating role of knowledge creation has positive relationship between challenging goals and project performance. As employees who accept challenges are likely to improve the performance of a project. Self-efficacy was tested as a moderator, and have positive relationship between knowledge creation and project performance, however it exhibits a negative impact between the challenging goals and project performance. Theoretical and practical implications have also been discussed in this study. This Study will help Pakistani power plant projects in implementing and practicing challenging goals which will increase employee's self-efficacy to achieve project performance.

Keywords: Challenging goals, Knowledge Creation, Project Performance, Self-efficacy.

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Chapter 1

Introduction

1.1 Background

Project Performance is one of the critical gauge now a day, especially in project base organizations where project need to be delivered in a defined span of time with limited resources (Clark, 1989; Atkinson, 1999). In last few years project performance criteria help to counter novel and complex nature of work (Munns & Bjeirmi, 1996). Project performance plays significant role in the completion of project because project success is the ultimate goal of a project. Project performance attaining more attention of the researchers as it is the most prominent and emerging field in the organizations nowadays (Kaulio, 2008). There are critical factors that lead the project to failure. Challenging goals of a project create factor of courage in individuals who have specific challenging goals as they perform best than for those goals that are not cleared (Arumugam, Antony & Linderman, 2016).

Project's final user satisfaction is dire thing but conventional methods and measurement of project success revolves around only cost saving, comply with quality and time management, called iron triangle (Archer & Ghasemzadeh, 1999). If we have a glance these pyramids are considered best for project performance. Iron triangle can be used to check the success factor of project management whereas project success involves detail objective and success factors that may be adding

resources in the system which lead to profitability (Davies, 2002; Jugdev & Mller, 2005). A project success key parameters are not only time, cost and quality they also involve on operation, safety, utility and performance (Chan & Chan, 2004).

Challenging goals of an organization must be linked with strategic policies as individual will perform in a good manner having knowledge of their limitations. Setting a specific goal moderate the performance of the project as increases task complexity increases because "do your best" case followed when individuals have high performance goal (Latham & Locke, 2007). The probability of failure is high as compare to success due to uniqueness in projects. The direct or indirect success depends on success factors of a project which work as input in the system (De Wit, 1988). Intensive transfer of knowledge among project team and end user of project create coalition which will lead them toward new business opportunities in future as knowledge creation and acquisition help to meet their goals (Yli-renko, Autio & Sapienza, 2001). Challenging goals can increase the performance result when the divergence between the recent performance and endeavor monitor the constancy and intention (Sitkin et al., 2011).

Adequate application and integration of the knowledge and skills consumed by the project teams in project rapidly counter the sudden disruption in the performing task and pertinent cause for desired outcomes from the project (Lin & Huang, 2010). Knowledge creation promotes a deeply innate culture of learning because learning makes project teams to play more dynamic roles for challenging goals. Though knowledge creation individuals who are able and willing to apply their learned skill for decision making and influence the project performance (Paavola & Hakkarainen, 2005). Challenging goals bring sense of threat which induces project teams to forgo traditional methods and open towards opportunities to seek novelty and take risk (Choo, 2011).

Outstanding product composition and process rely on management's capability to combine small chunks of particular knowledge about item being processed by conveying the required information of challenging goals to the team enhances the projects deliverable performance (Mitchell, 2006). Effective knowledge creation among teams helps to locate knowledge adequately as any problem occur in the

system while developing a product than team head can ask the experts of the specific problem this way of responding leads to meet the time constraints of the project and performance (Chang, Yen, Chiange & Parolia, 2013). Success of a project is important for all customers, project team and other stakeholders.

Bandura (1997) articulates that self-efficacy as a person's belief to perform a task in vibrant setting successfully. Self-efficacy approach carries a range from general to specific. Generalized self-efficacy pattern shows a perception that how can one perform beyond expectation in diverse conditions (Smith, 1989). Previous studies show relation of challenging goal with performance but very few studies shows relationship between self-efficacy and project performance when ability and goal difficulty is controlled (Locke, Frederick, Lee & Bobko, 1984). As level of self-efficacy increases, project teams smoothly adjust to dynamic environment (Bandura, 1977). Team members with high self-efficacy make positive impression and attitude to their working setting, which will contribute to project performance.

Self-efficacy derives motivation behavior of individuals and challenging goals always have characteristics that allow individual to make assessment of present project performance to determine progress towards challenging goals when they identify about making progress self-efficacy increases to continue and improve project performance (Schunk, 1995). Self-efficacy indicates the thought patterns of individuals which affects the choice of setting challenging goal, ultimately higher self-efficacy in attitude linked with project performance orientation and refer to perceived capability for challenging goal (Stevens & Gist, 1997).

Self-efficacy intuition affects individual's motivation and have impact on aim and goals through their plan (Locke, 2009). Project goals must be related to organization strategy. Self-efficacy affects the one's behavior by self-influence, as in organization context self-efficacy improves performance by putting influence that's how individual motivate themselves for challenging task, how they act and what they think (Pillai &Williams, 2004). Self-efficacy key elements are certain behavior action of human positivize and negative assumption, rigorness in performing task and persistence (Gist & Mitchell, 1992). Miles and Maurer (2012) affirms that human action is positively motived by self-influence. Individual's personal goals

plays a vital role in governing the attitude and pressure, hence it is necessary to develop the goal that pursuit the define goals dimensions (Mozani et al., 2015).

Currently researches are focusing on project performance as it can be analyzed through project's impact, its outcome and stakeholder's serenity relying in three pillars will not produce a critical verdict for performance (Turner & Zolin, 2012). Project based organization need to be more competitive and innovative in their work as future demand of people will change and projects in nature are always different from other project. So change in organization environment and sudden conflict arise due to customer changes the specification instantly coup by the management for higher performance (Koch & Bendixen, 2005).

1.2 Gap Analysis

In recent studies there is a call e.g. Arumugam et al. 2016 that projects challenging goals need to be examined with reference of performance and moderating effect of self-efficacy. Not too much studies in literature exist to study the fact that customer's demands are commutated (Mirchandani & Lederer, 2012). So in the planning stage of project for setting challenging goals need to be revised. The performance approach of challenging and specific goal is being pursued over the industry practically it needs empirical evidence and more investigation so that it could be properly pursued in the other industries as well. This research work also finds the gap that define mediating and moderating structure that can probably effect of relationship of variables that are not established in previous studies.

Locke and Latham (2002) state that individuals that are trained by the management with in the organizational strategies are more likely to perform in better manner when their given goal is challenging and specific with strategies. Ghosal and Bartlett (1994) says that challenging situation can make the personnel of organization to put effort with specific measures to attain desired outcomes of project. Weldon and Weingart (1993) proposed in their study that challenging goals will execute strength among the teams of project that give motivation, brings commitment and inspire them to evolve strategies for their project success. The knowledge

creation scrutinizes in different manner as new product process, making policies of organizations and knowledge about customer wants helps the organization's management to develop a deliverable for that started project (Chua, 2002). Literature lack the most significant gap with empirical evidence at large scale projects that knowledge creation makes a difference to operational excellence project performance (Nonaka, Toyama & Nagata, 2000).

Individuals who have high level of self-efficacy in their personality have ability to tackle stress of challenging goals then those individual who are less efficacious (Speier & Frese, 1997). Self-efficacy helps to strengthen the possibility of project personnel to perform tremendously (Voskuil & Robbins, 2015). Organization doing projects but after any failure by following traditional method their momentum of making improvement become very low. Setting challenging goals that are united with self-efficacy through training session affect performance of project and diminish the risk of uncertainty (Hwang, 2016). Many researchers from a long time conducting their research in the field of project. There is extensive load of literature about the certain success factor of any project but very little consideration is being given to success of any specific project in Pakistan to fill this gap there is need of studies (Iram, Khan, Ahmad & Sahibzada, 2017).

1.3 Problem Statement

Project performance is an essential facet of project management, it addresses and provides a latest and efficient way to all those aborted methodologies and conventional system pursued for setting specific and challenging goals. But there is a question still have not answered that which project performance is better than one who follows method of setting challenging goals related to organization strategies or those following the traditional system process for vague or unclear goals. Project success criteria revolves around iron triangle but there are certain factors that effect performance which are not define in traditional methodology of projects. Setting the challenging and specific goals strongly enhance attitude and performance (Ordonez, Schweitzer, Galinsky & Bazerman, 2009).

Challenging goals with respect to performance are still unexplored. Further the structure by which setting challenging goals phase affects project performance is not clear enough, here we propose a mediation with knowledge creation. In organizations, the importance of knowledge creation has not given due attention as measuring it is not a slight issue (Madhvan & Grover, 1998; O'Dell & Grayson, 1999; Wah, 1999). Also the moderating role of self-efficacy under charter analyzed. Individuals have high self-efficacy in their personality when they face dissatisfaction and stress due to failure in task performance will recoup more quickly will clinch demand and apply innovative problem solution methods when they have tough task in project (Collins, 1982).

If an organization wants to bring commitment in employees towards the work manager must communicate with employees often about the goals and gave direction them to achieve those goals at early stages of project (Enriquez, McBride, & Paxton, 2001). Communicating with employees about the demand of goals can help the employees to draw a big picture about the deliverables of project. Social cognitive theory says that mechanism to bring individual anticipation of behavior by motivating one by his task performance which is inspect by the individual (Schaubroek & Merrit, 1997). This is the different domain which is not encountered till now with all variables (Challenging goals, Knowledge creation, Project performance and Self-efficacy) in the project base organizations as well as in the body of literature of project management. Finally, as a domain project management put focus on projects, that are accomplished in developed countries over the globe but fewer studies are on deck about developing countries.

1.4 Research Questions

On the premise of the stated issue the present study is cut to find answer for some questions, concise summary of the questions is given as:

Research Question 1

How challenging goals affect project performance?

Research Question 2

Does knowledge creation mediates the relationship between challenging goals and project performance?

Research Question 3

Does self-efficacy moderates the relationship between knowledge creation and project performance, and relationship between challenging goals and project performance?

1.5 Research Objectives for This Study

The objective of this study is to explains the relation between variables shown in the model that all variables are normal and dependable and generate results that is the lucrative for completion of project.

The objectives of the study are as following:

- To explain the impact of challenging goals and project performance.
- To investigate the mediating role of knowledge creation with challenging goals and project performance.
- To explain the moderating role of self-efficacy with knowledge creation and project performance, and challenging goal and project performance.

1.6 Significance of the study

The current work will provide solid proof about performance of project-based organizations by setting challenging goals process that will also be helpful in the adding logical information to project management domain. The research will also open new structure of setting challenging goals to be considered in detail. In Pakistan the power plant sector will came to know importance of managing goals effectively and efficiently in project. Whenever any project got started and project

managers reach to the middle phase of projects then they face hurdles and multiple failures and problems, through this study project manager will be facilitated about accomplishment and the usefulness of goal and how to take decisions against risks.

In diverse settings, projects are delayed and not making ample revenue or zero profiting the organization and the customers, even though they are completed with in time and cost but do not meet their performance objectives (Dvir, Raz & Shenhar, 2003). This study is focusing the new ways that scratch and increase knowledge about how to enhance project performance. By this study practitioner will be capable to give confidence and hope to their personnel to tackle challenging situations. Competition about the projects is now around the globe and projects play an essential role in attaining competitive edge transforming their culture into project base culture. However, in order to achieve success organizations face many hurdles. In context of Pakistan, the main hindrance about project is delays in process.

Various issues arise in the evolution of project and two of those basic concerns are overrunning of cost and delays. But there are other certain concerns that hinders their performance like setting the challenging goals although specific goals boost performance but certain aspect that affects the goal setting like culture, employees behavior helps the manager to understand the complexity. Proposed study tells about what is the importance of knowledge creation on an appropriate manner so the scrupulous information conveyed to get desired outcomes. In today's business knowledge is the purposeful capital, organizations augment the knowledge created by individuals and delineate it is as chunk of knowledge structure of organization (Nonaka, Takeuchi & Umemoto, 1996).

Knowledge creation affect the indelibly competitive aspects during setting of goals, it also enhances learning by two ways before doing the task and by doing the task (Carrillo & Gaimon, 2000). National culture of Pakistan is describing by high power distance and collectivist adaption (Hofstede, 1980). This thing brings out an atmosphere in which labor have power difference with manager and themselves. But when people are motivated through self-efficacy they perform tremendously. Bandura (1997) affirmed that self-efficacy is associated with organization as well

as person's performance. By opting self-efficacy as a replacement of actual capabilities will be an adequate mechanism. Therefore, this research work strives the impact of Challenging goals in context with performance with mediating role of knowledge creation, and moderating role of self-efficacy in project base organizations of Pakistan.

1.7 Supporting Theory

Different researchers have proposed and explained many underpinning theories all over the world to support explore the research model of this paper like goal setting theory, theory of goal achievement social technical theory in six sigma and IT projects. The best enough to research model is goal setting theory which covers all the variables of the study.

The major aim of proposed research is to illustrate the domination of goal setting for the organization reputation, employee's and project performance. Therefore, the theory of goal setting is preferred as this is the best fit theory which links with all the variables e.g. Challenging goals, Self-efficacy, performance and knowledge creation.

Goal Setting Theory

Edwin Locke in 1960 presents the goal motivation theory this theory is linked with the organizational performance. By knowledge creation they know how to perform a difficult task to increase performance, as knowledge creation effects self-efficacy of an individual, bring commitment and enhance performance (Locke & Latham, 1990). Goal setting theory apply on individual as well as groups, however if challenging goals accepted once they give direction for larger parameter of success and persistence among individuals (Tubbs, 1986). System of prudence for desired performance always governed by both knowledge and motivation knowledge creation take place through learning otherwise events only occur by chance, goal motivates the human action in teams of project (Scott, 1987).

According to theory self-efficacy make difference that how one think, act and feel about (Bandura, 2001). Specific challenging goals affects motivation of employees, individuals with high level of self-efficacy prefer to choose difficult goals as self-efficacy gave confidence to do that work and goal attainment (Latham & Locke, 2007). Theory stated that people have different level of thinking, individual's flexibility varies from person to person and reason behind it is that level of consent. Goal increase people's intellectual & affective feedback to performance end result because goals stipulate the need for personal success, goals also precise self-control & self-judgement of performance achievements (Zimmerman, Bandura & Martinez-Pons, 1992).

Chapter 2

Literature Review

2.1 Challenging Goals and Project Performance

Goal setting literature define the term goals as obtaining specific regulation of competence in a task within specific span of time (Locke et al., 1981). The Goal setting theory postulates that prejudices and concrete goals are fundamentals in achieving task performance related objectives by individuals (Locke & Latham, 1990). On the basis of experimental studies, it is conspicuous that arduous goals expedite performance than discrete, undemanding goals; in the same way indistinct or definite then "try one's hardest" or objective less. Projects can attain fruitful results by setting challenging goals to get unexceptional outcomes. Gutierrz, LIorens-Montes and Sanchez (2009) suggested those projects that have challenging and laborious goals must have a shared vision for themselves because when goals are different in nature they must do work to teams.

Through individuals stretch when they have motivation for challenging goals and they work as a team and align their energy for a specific task they will perform better. Reason behind it is that in teams they learn about strength and weakness of each other some task are different that are beyond one's strength and they know how to coup herculean task. Goal setting theory is lined with aging and challenging goals motivate employees to behave more consciously to attain fruitfully project performance even when goals are hard to achieve (West, Ebner &

Hastings, 2013). Challenging goals make people to focus on the goals, as learning goals make employees to keep in their mind about desired performance without disturbing the milestones of the project (Seijts et al., 2011).

As arduous goals and working in teams help to resolve conflicts and create consistency among employees. Empirical studies postulates that challenging and difficult goals brings attention toward the task and stimulates strategy exploration for desired project performance (Earley, Connolly & Ekegren, 1989). Challenging goals with a vision creates an environment that regulates human to perform better (Locke, Shaw, Saari & Latham, 1981). Employees work as a team for challenging goals as outcome their performance increases with level of difficulty in task because herculean task leads towards desired outcome when it comes to perform as a unit (Weldon & Weingart, 1993). Projects always affected by the employee's determination, commitment with goals it also boosts self-efficacy among employees. Metter of getting success in projects become more important for employees and project manager when they work as s team in project because they contribute more effort and commitment with the project goals as performance linked with their own perks and promotions in organization.

Goal setting theory pertains that effect of specific and challenging goals leads to project higher performance in task with feedback that coupled motivation that seems to be mandatory for enhancing performance (Mento, Steel & Karren, 1987). Challenging goals have direct positive relation with goals when goals are difficult and specific and employees are committed towards goals, and knowledge of outcomes and feedback as well as mechanism of incentives effects the behavior to the extent of goal setting (Brown & Latham, 2002). Challenging goals positively related to project performance as goal setting part of planning and it increases the quality and making goals effective learning through past experiences (Smith, Locke & Barry, 1990).

Projects are always different in nature and challenging because every project start for specific goal which is arduous in nature so organization who do complex projects must have a mechanism of motivation for employees by delegating authorities to lower level employees for specific task, empowerment creates self-efficacy and

confidence for better attainment of goals and encourages them to perform good (Ghoshal & Bartlett, 1994). Individuals for prejudice and challenging goals have more consistency and motivation to work then working as a team or for group goal because in group every member has his own stakes to attain better performance, it may create rivalry in organization as social loafing occurs (O'Leary-Kelly, Martocchio & Frink, 1994). So it is not confirmed that every member in group will put his all attention to challenging task.

Kleingeld, Van Mierlo and Arends (2011) says that in projects when employees have challenging goals they have to divide their task into small chunks by doing this they create task dependency among employees where they have a shared vision, to achieve desired result they share experience about current project or any past project. Through task dependency team's attention will same towards arduous goal as group performance will be evaluated at the end of project. As students do projects in group will complete work more efficiently and effectively than working as an individual for a project.

Locke (1968) exhibits a positive direct relation between challenging goal and project performance. Scientist were considered more creative when they felt tested because intellect grow under challenge and this sense arise from challenging goals to work hard for project performance (Choo, 2011). Role of project manager also affect the challenging goal and performance because assigning challenging task to project teams, a manger's notion can be supporting or demoralizing for pursuing project performance (Preenen, Vianen & Pater, 2014).

Projects challenging goals have positive relation with the project performance if project goals are prejudice in nature as objective because goals that are subjective or unclear will reduce the motivation (Linderman, Schroeder & Choo, 2006). And projects performance can be achieved by team work as individual do not have the ability to make extensive effort for project needs if they have to make any change in defined strategy. Locke, Latham and Erez (1988) says that to achieve better outcomes employees must be committed with goal, they create determination and in teams it will bring a close-knit to work together. Linderman at el. (2006) through challenging goals we attain desired outcomes but its not only includes

that goal should be objective but the management of projects have capacity and tool and techniques to handle arduous stages of project.

Hypothesis 1: Challenging goals have positive and significant relationship with Project Performance.

2.2 Mediating role of Knowledge Creation

Locke et al. (1981) asserts that challenging goal have positive impact on project performance by adapting certain tactics, perks that motivate employees to achieve desired results. As tactics include some strategies helps to define the action plan which is created to resolve issues to attain challenging goals (Argote, McEvily & Reagans, 2003). Mechanism of developing strategies can be done only through knowledge creation as knowledge creation includes retention and disbursement. Knowledge creation involves certain things like ability, opportunity and motivation, employees have ability to share knowledge only when the quality of knowledge will be enough to retain as by giving trainings.

Knowledge creation is critically important for setting challenging goals and project performance on early stages of learning brings acquisition of new knowledge will be considered a part of routine before specifying task and become automatically every employee's attention which needs to be focal point for finding means that lead towards outstanding performance (Seijts & Latham, 2005). Putting effort will be an opportunity for them to attain target goals as they share their previous experience and create a motivation among themselves. Knowledge creation process facilitate projects to intensify knowledge embedded internally and putting it into operational activities with project members to improve efficiency, performance and create value (Tsai & Li, 2007).

Seeking Goals that assume to be different and challenging makes learning and knowledge creation to meet project performance parameters, because specific goals are challenging and uncertain as it requires new passages for application of strategies to achieve desired outcomes (Sitkin, See, Miller, Lawless & Cartoon, 2011).When

employee's motivation is high it will play significant role on performance, employees with high motivation are more anxious about their performance because the more challenging goals the more allowed rein employees will have to perform in accordance with their requisite knowledge created by integrating information and give their best because of challenging goals cues employees use skills, ability and knowledge they possess (Latham, Seijts & Crim, 2008).

Challenging goals leads to better project performance when motivation and strategies are strong enough to boost their capacities at the same time challenging goals also demands of availability of certain tool and techniques. Herculean and challenging goals deemed to expose more information to find new determinants of specific task by knowledge creation and sharing it among employees. Schon (1975) say that a good management can be only considered when they have high level of latitude of knowledge creation and learning in projects. Because when organizations have specific goals and require high demand for innovation its fosters learning, empowerment, and new opportunities to solve problems as knowledge creation take place and achieve desired project performance, it also boost them by enthusiasm, supportive mechanism.

Teams in projects always learned by involvement of previous projects because it helps them to develop new strategies, tool and techniques that can be useful to attain laborious actions or chunks of the project. Nonaka (2000) articulates that every organization that do project their strategies always vary from project to project because in projects every time situation is different and changing environment helps to create knowledge creation process more efficiently as projects challenging goals are divided into chunks among teams to obtain favorable outcomes. New knowledge yielded though formation of knowledge creation as knowledge give edge in development of new competence in the projects and effect performance of project (West & Meyer, 1997). Knowledge creation is a course of action that depends on individual's experience and variety of projects, when management work as a cohesive team they will share information of existing issues in same kind of projects.

Knowledge creation is not only associated with creation of new ideas but also actuate the limit of knowledge in the organization so with challenging goals it investigates issues that hinders the project performance (van Aalst, 2009). When project base organization starts a new project they need to set expedite and challenging goals with various strategic, decision knowledge creation spiral can advantage to bind and align new and existing knowledge from different employees in development of new product to enhance performance (Gold, Malhotra & Segars, 2001; Hoegl & Schulze, 2005). Dynamic knowledge creation can enhance the capability of the firm to meet strategic objective, challenging goals and achieve favorable performance through innovation (Chia, 2003; Lee & Choi, 2003).

Knowledge creation is critical aspect as it brings opportunity for projects to boost proficiency to prolong competitive edge as new knowledge make them enable to introduce new product and improve existing in efficient manner (Nonaka & Konno, 1998). Knowledge creation take place when management decide to set challenging goals for projects and knowledge creation appears spontaneously to resolve specific problems related to performance, encourage change and innovation which ultimately caters high project performance (Von Krogh, Nonaka & Rechsteiner, 2012).

Knowledge creation act as analytical enabler for innovation and performance, when organization have challenging goals knowledge creation helps to determine that how much and in what direction to improve to meet project performance and success parameters (Esterhuizen, Schutte & Toit, 2012). Knowledge in projects serves as capital, it helps the management to compete the rivals of the relevant domain (Wang & Noe, 2010). Knowledge creation mediates between challenging goals and project performance as Kao and Wu (2012) articulates that knowledge creation has high positive link with performance through process of learning allow individuals to accumulate goal related knowledge, experiences when they are assigned a goal.

Knowledge creation is well known as skills and novelty in literature and termed as in what ways corporations, different organizations and projects develop the required concept to sustain innovation and performance (Bergman, Jantunen &

Saksa, 2004). Challenging goals with shared vision always carry the element of knowledge creation as goals boosts the mechanism of sharing opinion, only specific goals force the employees in the organization to hold their ideas in one place to handle prejudice tasks and achieve desired product in shape of project (Chow & Chan, 2008). In challenging goal setting knowledge creation mediates the performance of project, distinct and challenging goals tend to rely on employees and knowledge creation is the key input in this process and will be employed to attach in new and specific ways to provide worth to customer and influence the performance (Li, Huang & Tsai, 2009).

Literature about learning and creativity says that innovation is stem of creativity and when goals are challenging they require innovation through individual's attitude towards creativity, creativity lead to knowledge creation and learning in projects (Amabile, Conti, Coon, Lazenby & Herron, 1996). In projects innovation brings competitive edge through unique benefits of the projects and when employees are considered to take risk for new idea by making trials on tasks it will encourages them and gave new learning for the new projects. Knowledge creation helps to build rational about making decision or sudden choices (Mukherjee, Lapre & Van Wassenhove, 1998).

Empirical literature shows that there is positive relation between knowledge creation and performance (Bontis, Crossan & Hulland, 2002). In projects if any stage causing delay management must address the issue, route causes then gather data and have a critical view to solve it through developed tools and techniques from past projects to coup the problem. Even after making changes in plan problem is not solved then they repeat the whole process or else whatever seems requirement of the time. Interaction among member and learning have positive impact on knowledge quality and performance of project (Chua, 2002).

Hypothesis 2: Knowledge Creation positively mediates the relationship between the Challenging Goals and Project Performance.

2.3 Moderating role of Self-Efficacy between Knowledge Creation and Project Performance

Self-efficacy means one's believe on himself and developing a prudence with capabilities that how to formulate and establish an action plan to attain designed performance. Self-efficacy has its significant importance in context of performance as it involves one's ability and belief to conclude specific task in desired manners (Bandura & Wood, 1989). Self-efficacy involves individual's capabilities that enforce them to develop skill for better performance in the organization. Through training, management of organization foster self-regulated learning among employees, as knowledge creation is a factor of learning and polishing skills through challenging strategies which have positive influence on performance, learning and self-efficacy enhances the knowledge creation and helps to obtain settled targets of performance (Wilson & Narayan, 2016).

High level of self-efficacy boosts the chances of good performance because self-efficacy brings the ability to take initiative, difficult tasks hike the consistency to go for complex task (Speier & Frese, 1997). Cumings (2004) say that innovation literature suggested that knowledge creation and sharing turns into expertise in developing strategies as they interact with the customers for the project that are novel and this process foster learning and creativity among employees. Day by day projects are becoming technology based that require technical and complex knowledge and self-efficacy in employees make them good enough to take decisions to combat the different kind of risks in the project. Halper and Vancouver (2016) demonstrates in their research that self-efficacy is positively and significantly related to performance and other domains.

Self-efficacy endorses adoption of high standards lead toward higher performance because when knowledge is created then a person actually believes and have capacity to perform up to that level (Vancouver, Thompson & Williams, 2001). Self-efficacy is considered as a cognitive ability which is widely seem to be the best single indicator of knowledge creation and performance through learning especially on complex task and challenging goals (Bell & Kozlowski, 2002; Hunter,

1986). Self-efficacy beliefs should influence attributions of project performance and these attribute in return will effect self-efficacy appraisal, self-efficacy is correlated with future motivation because its affect future performance on the base of past experience individuals have, casual attribution and creating tendencies to persist or give up (Silver, Mitchell & Gist, 1995).

Pan (2014) says teachers who have high level of self-efficacy set an example for students to do work more effectively to enjoy gratification and joy of attaining targets as their efficaciousness motivate them to learn about tough assignments, learning and knowledge creation gave them satisfaction and improves their performance. Self-efficacy give confidence to project teams to take active part in project activities and do brainstorming to collect ideas and create knowledge for desired project performance, whereas knowledge creation is linked with improving project performance through better understanding and learning use in problem solving heuristics for improvement of quality performance (Arumugam, Antony & Kumar, 2013).

Self-efficacy brings the element of innovation it gives confidence by knowledge and learning to employees and projects, performance will be judge to the extent of innovation and creativity (Thundiyil, Chiaburu, Li & Wagner, 2016). Self-efficacy has positive affect on knowledge creation and performance, construct of self-efficacy brings factor of learning which is essential to increase the tendency of knowledge creation and knowledge sharing, knowhow of technical skills and development of strategies and promote the learning mechanism that set example for them to learn from past projects and achieve desired performance (Zhang, Li, Zhang & Chen, 2016). Self-efficacy gives bases to share valuable data and information to create knowledge and awareness by which management of project pass their verdict that in how to tackle uncertain events and involve the employees to go for unplanned things and perform in specific part of project (Lee, Endres, Sanjib & Intkhab, 2007).

Hypothesis 3: Self-Efficacy positively moderates the relationship between Knowledge Creation and Project Performance

2.4 Moderating role of Self-Efficacy with Challenging Goals and Project Performance

Self-efficacy has symbolic effect on employee's enthusiasm as it has relevent importance for self-learning, the more courage and tenacity one has about his capabilities for a specific task the more chance it has that he will actively participate to compete the challenging goals with consistent performance (Blomquist, Farashah & Thomas, 2016). Project base organizations usually do complex nature projects that involve challenging goals and individuals who have self-efficacy in nature will learn from the past projects and their learning and confidence help to be part of projects tough tasks or any particular situation and perform incredible that set example for others. High level of self-efficacy demonstrates more internal locus control after that a person set challenging goals and perform tremendous through his believe and ability to perform well on task (Wood & Bandura, 1989).

Self-efficacy reflects an individual's both motivation and self-recognition explained by Kanfer (1987, p.260) "Intentions for effort allocation" high level of self-efficacy is linked with high level challenging goals and eventually generate higher performance. High level of self-efficacy indicates higher learning orientation as they learn from their past experience of projects even failure is something that brings something positive to learn for them (Philips & Gully, 1997). Self-efficacy has more influence on project performance and challenging goals with help of training, in training session with top management they learn new things, evaluate, pass judgments and got awareness about their goals what factor motivates them to take decision or behave in particular or uncertain situation (Hwang, Lee & Shin, 2016).

Training helps to make assessment projects that are normally for short term so training can be for short term to teach employees by senior management to tackle challenging of the project. Plethora past studies shown challenging goal orientation has significant importance in context of training (Kozlowski et al., 2001). Judge and Bono (2001) states that an individual with higher self-efficacy will take a challenging goals as an appropriate occasion through which he can get expertise

and benefit from, on the other hand the one with low self-efficacy take it as undeserved chance or opportunity to fail, self-efficacy preserve confidence in the face of breakdown which makes future project performance more likely. In challenging goal setting response is a key indicator which people need in order to trace their movement; commitment to goals which is boosted by self-efficacy and observing the challenging goal is vibrant to task complexity to the degree task knowledge harder to attain in complex tasks and situational limitations for (Locke & Latham, 2006).

Self-efficacy helps to set more challenges for those employees who have less self-efficacy setting challenging goals helps to attain desired project performance but role of project manager is also important as manager's self-efficacy more likely to affect performance because manger builds confidence in all project teams to work together without bias and outcomes lead to better performance (Pan, Sun & Chow, 2011). Self-efficacy is related to both task persistence and ability to evaluate performance, concerning persistence in performance, self-efficacy expectations contain a motivational component that determines when and how long one will engage in overt behaviors to produce a desired outcome of project Bandura (1986), when a person aspires to a challenging goal he or she is more apt to exert the self-monitoring and to sustain the effort (Bouffard-Bouchard, 1990).

Bandura and Cervone (1983); Taylor, Locke, Lee and Gist (1984) identified self-efficacy is an influential construct which lays an important mechanism and strengthen the process of challenging goals and project performance. Self-efficacy helps to enjoy advantages from participation in challenging tasks as it foster learning if one has high self-efficacy have more concern with challenging goals and their goals commitment is more than those employees how have low self-efficacy because commitment gave motivation to perform in extraordinary ways (Wilson et al., 2016). Goal commitment only came in existence when management gave employees empowerment of taking decision and management give that kind of authority to one who is strong enough and learned from experiences to perform with excellences in challenging situations.

Self-regulation resources like self-efficacy with challenging goals contribute to create high performance cycle such as availability of enactive proficient resources boost self-efficacy which in turn enhances project performance through challenging goals (Brown, Jones & Leigh, 2005). Cognitive ability, self-efficacy and challenging goals each influenced performance (Judge, Jackson, Shaw, Scot & Rich, 2007). Self-efficacy is a thought that tend to lead the employees to boost the difficulty about setting challenging personal goals as self-set goals enable success and the whole process will restore more sustained effort when level of self-efficacy is high hence, it will facilitate performance and ultimately exhibit linear relation with challenging goals (Schmidt & DeShon, 2010).

A leader with high level of self-efficacy gave confidence to individual that what they have learned from new or past project can apply previous projects lessons to coup present situation to achieve desired results, it become a reason of perks and promotion in the project because when the top management find employees too much attractive and committed to their challenging task they set their position in the project hierarchy (Seibert, Sargent, Kraimer & Kiazad, 2017). In organizations top management always keep an eye on the employees like who actively participate in challenging situation and who try even through hit and trial and motivated to get desired outcome will be rewarded. Extrinsic reward when used as instrument to enhance the creativity, and with self-efficacy employees orient and generate novel solutions to give cornerstone the challenging goals (Argote & Miron-Spektor, 2011).

Goal are intrinsic part of enthusiasm and knowledge which results in self-efficacy as employees have challenging goals, goals give them motivation to put least effort to get desired objective and element of self-efficacy take in existence when they make comparison of their targeted goals with what they have settled to achieve and then assessment with self-efficacy help to retain motivation among employees (Schunk, 2003). Nature of goals at time determine the level of self-efficacy because when goals are easily to achieve people will put less efforts because goals that are easy to achieve have limited scope but when goals scope is large self-motivated learner do more tries to achieve difficult goals, as goals nature set the performance parameters

.Situation intimations help to employees motivate for good performance because situational factors involve the atmosphere, strategies, availability of knowledge and resources and mechanism of evaluation (Mangos & Steele-Johnson, 2001).

Hypothesis 4: Self-Efficacy positively moderates the relationship between Challenging Goals and Project Performance.

2.5 Research Model

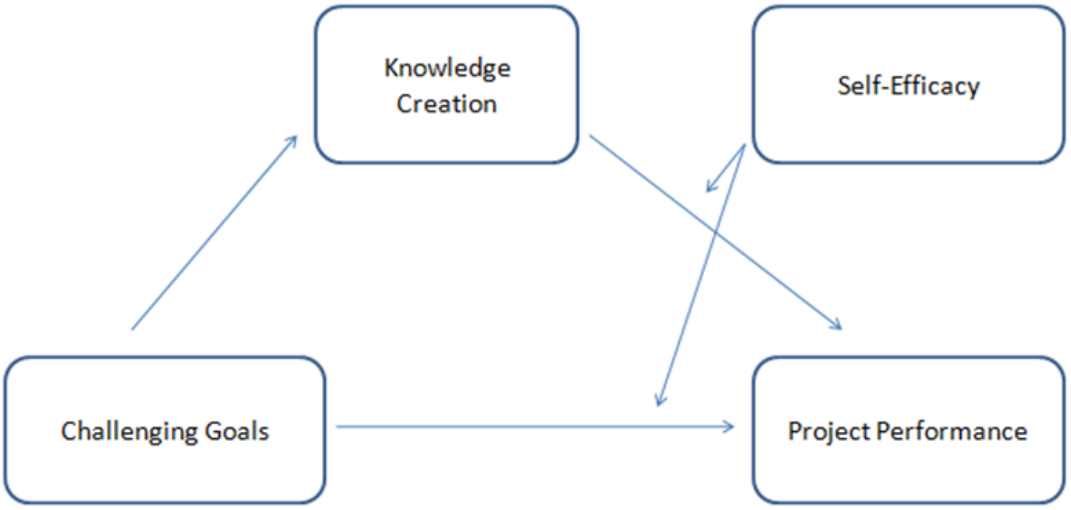

FIGURE 2.1: Conceptual Model

2.6 Hypothesis

Hypothesis 1:

Challenging goals have positive and significant relationship with Project Performance.

Hypothesis 2:

Knowledge Creation positively mediates the relationship between the Challenging Goals and Project Performance.

Hypothesis 3:

Self-Efficacy positively moderates the relationship between Knowledge Creation and Project Performance.

Hypothesis 4:

Self-Efficacy positively moderates the relationship between Challenging Goals and Project Performance

Chapter 3

Methdology

This chapter exhibits the comprehensive methodology of the study. It comprises of research design, techniques for collection of data and instruments. This research work is about the relationship between Challenging Goals and Project Performance, with mediating role of Knowledge Creation and moderating role of Self-Efficacy.

3.1 Research Design

In order to figure out the defined result of this study research design has been explained below.

3.1.1 Purpose of the Study

- To investigate the impact of Challenging Goals and Project Performance.
- To explain the mediating role of knowledge Creation and with challenging goals and project performance.
- To evaluate the moderating role of self-efficacy with knowledge creation and project performance, and challenging goals and project performance in context of Pakistan.

3.1.2 Research Philosophy

Research philosophy consists of work that includes all paradigms of research element which exist in the circle of knowledge. Research philosophy has four types; pragmatism, realism, positivism and interpretivism (Saunders & Lewis, 2012). This study follows the hypothetical deductive research method which is based on determinism philosophy, which in past literature already explained and support the hypothesis and will be tested proposed hypothesis through empirical verification.

Generally quantitative methods are appreciated and used for large scale of population. Hence for explaining the relationship between the variables use in research in this study quantitative research has been used to collect for the purpose of quality data.

3.1.3 Type of Study

The nature of this study is quantitative and data is collected through survey based methodology from the project managers and teams working and employees on clusters of the energy and power plant projects.

3.1.4 Unit of Analysis

In current study the distinctive or fundamental characteristics for analyzing is the unit of analysis. Proposed study's unit of analysis is individual, whereas unit of analysis could be from group to different individuals, organizations and culture etc. This study focusing on effects of challenging goals on project performance through self-efficacy. To determine project performance among employees. There is need to access specific regions of project base organizations which will tend to improve and boost their performance in different project tasks. In this study, unit of analysis was project managers and employees of government sector project base organizations of Islamabad, Lahore and Jauharabad.

3.1.5 Study Setting

For the purpose of collecting data respondents were contacted online.

3.1.6 Time Horizon

Saunders & Lewis (2012) has describe two dimensions of time horizon; Cross-sectional and Logitudinal.In cross-sectional we have limited time so it can be conducted in specific period of time whereas logitudinal study have no limitation of time and data can be collected frequently from respondents. This research work is cross-sectional in nature and data is collected in two months.

3.2 Instrumentation

The questionnaires were selected from different credible sources and through these questionnaire data was collected. Questionnaires were distributed in English. About 50-60 questionnaires were dispersed in every single project base organization contacted online for quick response. According to previous researches, collecting data online is the fastest and convenient way, because respondents have comfort to fill their responses as compared to filling questionnaires manually besides what are method of data collection as there is no symbolic impact on the quality of data while choosing any of two methods aforementioned (Church, Elliot & Gable, 2001).

All the items i.e CG, KC, PP and SE filled by the employees and project managers. All responses of the questionnaire are taken 5-points Likert scale where 1 represents (strongly disagree), 2 represents (disagree), 3 represents (Neutral), 4 represents (agree) and 5 represents strongly agree. All these scales were ratified testing them through reliability analysis. The questionnaire includes 24 items and having total 5 sections comprises demographics, Challenging Goals, Project Performance, Knowledge Creation, and Self-Efficacy.

Information about demographics includes Gender, Age, Qualification and Experience also collected in order to make the results more reliable and accurate and

intimating participants that information will be kept secret. 300 questionnaires were distributed in total but only 290 were received back, but the actual number of questioners used for data analysis and generating results were 281.The discarded questionnaires out of 290 questionnaires were incomplete, many of them not completely filled and suitable for further analysis.

3.2.1 Ethical Consideration

With all questionnaire that cover with the introductory letter giving explanation about the purpose and significance of the study, with assurance that all the data collected from respondents will be confidential and results generated from analysis with be strictly use for academic purposes.

3.2.2 Challenging Goals

Instrument for Challenging Goals is constructed by Lindermanet al. (2006) that contains 3 items. Sample items includes "We found it very difficult to achieve the project goals". The reliability was 0.633 to 0.791 of this measurement.

3.2.3 Knowledge Creation

Instrument for Knowledge creation is constructed by Choo, Linderman, & Schroeder, (2007) that comprise 3 items. Items are "The team generated many ideas while doing the projects". Its reliability was 0.7.

3.2.4 Project Performance

Instrument for Project Performance was primitively developed by Nidumolu, (1995) but adopted from Ching Gu, Hoffman, Cao and Schniederjans (2014) that comprises 8 items. Items included "Projects are completed on time". This scale had reliability 0.69.

3.2.5 Self Efficacy

Questionnaire of self-efficacy is constructed by Sherer and Maddux (1982) . Total items are 10. Sample item included "When I make plans, I am certain I can make them work ". The scale had reliability 0.86.

Table 3.1: Instruments.

Variables	Source	Item
Challenging Goal (IV)	Lindermanet, Schroeder and Choo (2006)	3
Knowledge Creation (Med)	Choo, Linderman, and Schroeder (2007)	3
Project Performance (DV)	Ching Gu, Hoffman, Cao, and Schniederjans (2014)	8
Self-efficacy (Mod)	Sherer and Maddux (1982)	10

3.3 Data Collection

3.3.1 Population

All set of cases encountered to drawn a sample is called population (Wilson, 2014). Getting answers of all research questions from entire population is not easy. In this study the population includes the project managers and different project teams who are working in power plant projects of Lahore, Islamabad and Jauharabad.

3.3.2 Sample

Sampling is a procedure commonly used for data collection and drawn through nonprobability technique and probability. It is not easy to collect data from the whole population due to shortage of time and limited resources and convenient sampling is used to choose sample for analyzing data. In convenient sampling some representatives have been chosen for the representatives of the entire population.

Organization that were selected as sample have well known experience about the challenging goals. So the sample which is selected for proposed study shows all the components which are required to get results they are ideal representatives of entire population.

In this research, convenient sampling used as convenient sampling comes under the tree of non-probability techniques of sampling. In convenient sampling technique collection of data takes place in an unarranged manner which gives base on the feasibility so that the data should be collected productively. Hence convenient sampling is the most suitable technique. Because the data could be collected from any project base organization in Pakistan in unarranged manner. This will exhibit the complete scenario in expressing the impact of challenging goals on project performance with mediating role of knowledge creation and moderating role of self-efficacy.

Our main target area is project base organizations of Pakistan; since this work is devoted against the performance of power plant projects. This sample have employees and project managers of different levels therefore; the self-reported questionnaire will be used to collect data. There were 300 questioners circulated in different organizations. Data collected from respondents were kept confidential and respondents were also guaranteed about confidentiality.

3.3.3 Sample Characteristics

The demographics of this study includes the; project manager's and employee's age, gender, work experience of project manager and employees in the field of project management, project manager's and employee's qualification.

Sample characteristics are mentioned below in tables:

3.3.3.1 Gender

Gender is important element of demographics as it divides the population into female and male. In this research study it shown in the succeeding table 3.2 that ratio of the male respondents higher than female respondents.

Table 3.2: Represent Gender Percentage

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	202	71.9	71.9	71.9
Female	79	28.1	28.1	100
Total	281	100	100	

Table 3.2 shows that in the sample size of 281 male are 71.9% and 28.1 female. Result shows that male percentage is higher.

3.3.3.2 Age

People usually don't like to disclose their age and feel hesitation. So for keeping in the view ease of respondents different age ranges were mentioned in the questionnaire to collect data about age's of respondents.

Table 3.3: Represent Respondent's Age Distribution.

Age	Frequency	Percent	Valid Percent	Cumulative Percent
18-25	55	19.6	19.6	19.6
26-33	52	18.5	18.5	38.1
34-41	118	42	42	80.1
42-49	52	18.5	18.5	98.6
50 and above	4	1.4	1.4	100
Total	281	100	100	

Table 3.3 shows the different age ranges of sample population.19.6 % of respondents age were between 18-25, 18.5% of respondents were of 26-33, 42% of respondents were between 34-41, 18.5% of sample population were range of 42-49 and 1.4% of respondent's age were in the range of 50 and above. The higher percentage of results were in the range of 18-25.

3.3.3.3 Qualification

Education is an important factor of demographics because education helps to create knowledge which passes through generation to generation and then nation. Education helps to create competitive edge in project and lead them to perform better that why in this study questionnaire section of demographics include respondent's qualification in table below:

Table 3.4: Respondent's Qualification

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
Matric	1	0.4	0.4	0.4
Inter	11	3.9	3.9	4.3
Bachelor	106	37.7	37.7	42
Master	111	39.5	39.5	81.5
MS / M.Phil	49	17.4	17.4	98.9
PhD	3	1.1	1.1	100
Total	281	100	100	

Table 3.4 shows result about qualification of respondents. Matric pass percent was 0.4% ,respondents having inter degree were 3.9%, 37.7% hold bachelor degree, master qualified were 39.5% , 17.4% of respondents holding MS/M,Phil and PhD holders were 1.1%.

3.3.3.4 Experience

Work experience in specific field of an organization matters a lot because through the learning work experience, one can bring innovation and creativity in the work. For getting data of respondent's experience we used different time range for the convenience of respondents.

TABLE 3.5: Respondent's Experience

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
0-5	153	54.4	54.4	54.4
06-10	60	21.3	21.3	75.7
11-16	48	17.1	17.1	92.8
17-22	11	4	4	96.8
23-28	6	2.1	2.1	98.9
29 and above	3	1.1	3	100
Total	281	100	100	

Table 3.5: Shows experience of respondents. 54.4% of the sample population have work experience in range of 0-5, 21.3% have 6-10 years, 17.1% were in the range of 11-16, 4% have experience in the range 17-22, 2.1% have experience in the range of 23-28 and 29 and above are of 1.1% of sample population.

3.4 Statistical Tools

To test hypothesis of this study Structural Equation Modeling (SEM) technique used for data analysis. For analysis of data IBM SPSS 20.0 was used. To analyze the causal relationship between the independent variable i.e. challenging goals and dependent variable i.e. Project performance single linear regression was used. Regression analysis helps to indicate either the acceptance or rejection of hypothesis that have support of previous studies in literature or not.

The objective behind using regressing analysis indicate that various factors that may affect the dependent variable (Project Performance). For conducting further analysis on data Preacher and Hayes (2004) three steps was practiced. These three steps include putting the demographics in covariant column and dependent variable i.e. Project Performance in the outcome column and independent variable i.e. Challenging Goals in the independent column. While performing these, we need to

select a model for moderation and mediation. In preacher and Hayes method moderation and mediation checked separately. For moderation and mediation model 14 is used in the analysis.

3.5 Pilot Testing

The table shows the reliability analysis of all the variable of this study. For pilot testing we collected 50 questionnaires from respondents and 46 questionnaires are undertaken for reliability analysis. The result shows that there is no problem detected in scales of this study.

3.6 Reliability Analysis

Reliability analysis is used to check the properties of scales that used for analysis and their different elements of variables. It also analysis the consistency between variables and existence of relationship between variables. A scale is considered reliable when it generates same results in different situations. Cronbach's Alpha value should be equal to or above 0.7 is considered significant. If the value of Cronbach's Alpha is less than 0.7 it is not reliable to measure the construct. Higher the value of Cronbach's Alpha has higher chances of measuring the constructs.

Table 3.6: Scale Reliability.

Variables	Cronbach's Alpha	No. of Items (Before)	No. of Items (After)	Items Removed*
Challenging Goals	0.703	3	3	–
Knowledge Creation	0.801	3	3	–
Project Performance	0.714	8	8	–
Self-efficacy	0.845	10	10	–

In present study Cronbach's Alpha value of challenging goals is 0.703, the Cronbach value of knowledge creation is 0.801, the project performance Cronbach's value is 0.714 and self-efficacy is 0.845. Value of knowledge creation and self-efficacy is high which indicates both scales are highly reliable.

3.7 Data Analysis Techniques

The data gathered from 281 respondents analyzed on SPSS software. Following techniques were performed to analyze the data;

1. Questions that filled correctly were chosen for analysis.
2. The collected data of variables was coded and that coded data used for analysis.
3. Frequency table was developed to describe the characteristics of sample.
4. Through numerical value the descriptive statistics developed.
5. Reliability analysis of all study variables was conducted to find the Cronbach alpha.
6. Correlation was performed to identify whether there is a significant relation in variables or not.
7. Preacher and Hayes method was used to run mediation and moderation and to find the mediating and moderating role in independent variable and dependent variable.
8. For any probable rejection and acceptance of hypothesis; the proposed hypothesis was verified by using Preacher and Hayes method and correlation.

Chapter 4

Results

4.1 Results for hypothesized variables

4.1.1 Descriptive Analysis

The descriptive statistics done to calculate the standardized values of the all study variables and it is used to summarize the data in the form of tables. Descriptive statistics includes the total sample size of study, maximum, minimum value, mean and standard deviation.

Table 4.1: Descriptive Analysis

Variables	N	Min	Max	Mean	SD
Challenging Goals	281	2.67	5	3.835	0.64171
Knowledge Creation	281	2.5	5	3.75	0.5231
Project Performance	281	2	4.9	3.45	0.66615
Self-efficacy	281	2.5	4.83	3.665	0.40092

Table 4.1 shows the standard and mean value of targeted variables of study. In variables column all variables (challenging goals, Knowledge creation, project performance and self-efficacy) are measured on 5 point likert scale where 1 is "strongly disagree" and 5 is "strongly agree". Mean value exhibits the extract of all responses. Challenging goals is an independent variable has mean value 3.835 and a standard deviation of 0.64171. Knowledge creation which acts as a mediator

between challenging goals and project performance having mean of 3.75 and standard deviation of 0.52310. Project performance is the dependent variable of the study has a mean value of 3.45 and a standard deviation 0.66615. Self-efficacy is the moderator; has mean value of 3.665 and a standard deviation of 0.40092.

4.1.2 Correlation Analysis

Correlation analysis done to for the purpose to ratify the link between variable of the study. Correlation analysis is undertake to check the proposed hypothesis and discovering relationship of challenging goals and project performance with mediating role of knowledge creation and moderating role of self-efficacy. It gives view about the degree how variables vary together at the same time or not. To measure the strength or weakness of association between variables Pearson correlation analysis is used it range from -0.1 to 0.1. With the help to calculated values, we can make decision about the strength of relationship of targeted variables, their values can be generalized by judging their distance from zero.

Interpretation of data can be done in a way that if value is distant from zero there is strong association between variables. And if calculated value is zero it means that there is no association between variables. Type of relation identified through positive, negative sign. Direct relation has positive sign and negative sign indicates negative relation, if one variables increase and other decreases it exhibits indirect relation.

TABLE 4.2: Pearson Correlation.

		CG Mean	KC Mean	PP Mean	SE Mean
CG Mean	Person Correlation	1			
	Sig,(2-tailed)				
KC Mean	Person Correlation	.569**	1		
	Sig,(2-tailed)	0.0000			
PP Mean	Person Correlation	.359**	.325**	1	
	Sig,(2-tailed)	0.0000	0.0000		
SE Mean	Person Correlation	.672**	.424**	.399**	1
	Sig,(2-tailed)	0.0000	0.0000	0.0000	

Correlation is significant at 0.01 levels (2-tailed)

N = 281, *p < 0.05, **p < 0.01, ***p < 0,001 (CG = Challenging Goals, KC = Knowledge Creation, PP = Project Performance, SE = Self-Efficacy)

The correlation results shown in table 4.2 are as follow:

There is positive and significant relation between challenging goals and project performance, were r = .359** at p < 0.01. It can be seen in the aforementioned table challenging goals has positive relation with knowledge creation, where r = .569** at p < 0.01. Table above exhibit a positive correlation between challenging goals and self-efficacy, where r = .672** at p < 0.01. Knowledge creation has positive relationship with project performance, where r = .325** at p < 0.01. A positive relation can be seen in correlation table about self-efficacy and project performance, where r = .399** at p< 0.01. Self-efficacy has significantly positively correlated with knowledge creation, where r = .424** at p < 0.01.

4.1.3 Regression Analysis

To analyze the existence of relationship between the variables of study we have performed correlation analysis. And regression analysis done to check the dependency of one variable on the other variable. Actually regression analysis shows

the point at which one variable depends on the other variable i.e. independent variable at which point it is being regressed.

TABLE 4.3: Regression Analysis

Predictor		Dependent Variable	β	SE	t	P
Challenging Goals	→	Project Performance	0.30	0.7	3.83	0.00
Challenging Goals	→	Knowledge Creation	0.55	0.4	11.56	0.00
Knowledge Creation	→	Project Performance	0.21	0.8	2.64	0.00
Int_term	→	Project Performance	-.20	.10	-1.97	.04
2nd Int_Term	→	Project Performance	-.18	.106	-1.73	.08
			LL 95% CI		UL95%CI	
The mediating effect of knowledge creation and moderating effect of self-efficacy.						
Bootstrap results for indirect effect			.04		.18	

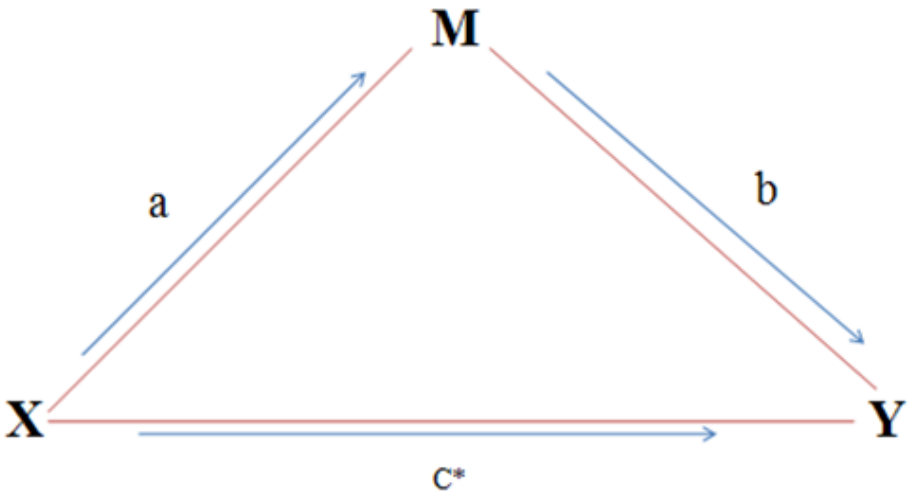

FIGURE 4.1: Mediated Model

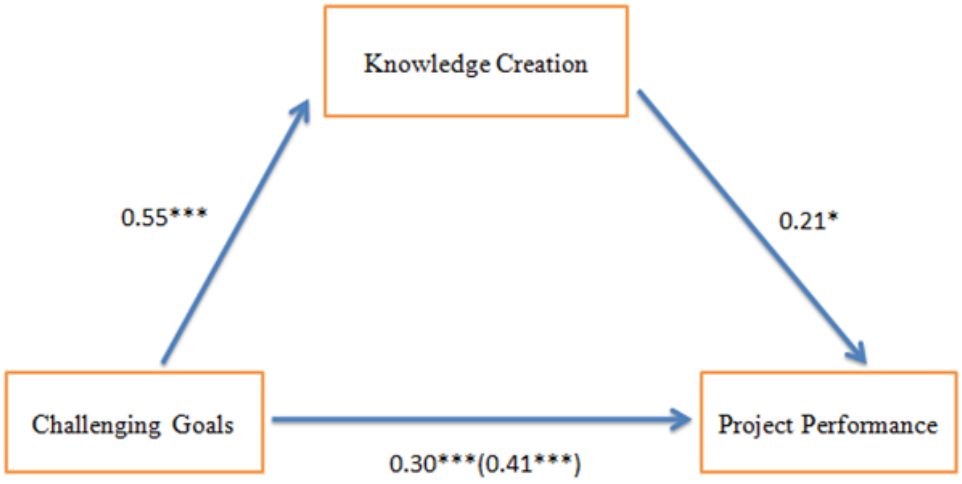

FIGURE 4.2: Coefficients of mediated model

The aforementioned table shows that challenging goals have significant and direct positive relation with project performance. Hence, the un-standardized regression co-efficient demonstrates that (β = .30, t = 3.83, p = .00). These values provide justification for hypothesis H1 i.e. "Challenging goals have positive relation with Project performance". Results indicate that challenging goals have positive association with knowledge creation (β = .55, t = 11.56, p = .00) whereas knowledge creation has positive relation with project performance value of un-standardized regression co-efficient specify (β = .21, t = 2.64, p = .00). Table 4.3 indicates that knowledge creation mediates the relationship between challenging goals and project performance, as the indirect effect of challenging goals on project performance through knowledge creation has the lower limit of .04 and upper limit of .18 and there is no zero value in the bootstrapped 95% confidence interval. So, it is concluded that the hypothesis H2 i.e. "Knowledge creation positively mediates between the Challenging goals and Project performance" is accepted. Results indicate that Self-efficacy acts as moderator between Knowledge creation and Project performance, the un-standardized regression analysis indicates (β = -.20 t = -1.97 p = 0.4), here the hypothesis H3 i.e. "Self-efficacy moderates the relationship between Knowledge creation and Project performance: such that if the self-efficacy is high than the relationship between Knowledge creation and Project performance would be high " is accepted p = 0.04 show the significance confidence interval

95% and no zero value present leads to the acceptance of the H3 hypothesis. It's been concluded from table 4.3, self-efficacy does not act as a moderator between challenging goals and project performance as indicated by un-standardized regression analysis (β = -.18, t = -1.73, p = .08), that's the reason that hypothesis H4 i.e. "Self-efficacy moderates the relationship of Challenging goals and Project performance" such that it weakens or strengthens the relation is rejected because p = .08 that shows an insignificant value and there is a zero at bootstrapped 95% of the confidence interval.

4.2 Summary of Accepted and Rejected Hypothesis

TABLE 4.4: Hypothesis Summary.

Hypothesis	Statement	Result
H1	Challenging goals have positive and significant relationship with Project Performance.	**Accepted**
H2	Knowledge Creation positively mediates the relationship between the Challenging Goals and Project Performance.	**Accepted**
H3	Self-Efficacy positively moderates the relationship between Knowledge Creation and Project Performance.	**Accepted**
H4	Self-Efficacy positively moderates the relationship between Challenging Goals and Project Performance.	**Rejected**

Chapter 5

Discussion and Conclusion

5.1 Introduction

This chapter includes the detailed discussion about relationship of hypothesis, reasoning for acceptance and rejection of hypothesis, also the theoretical and practical implication, with strengths and weakness of study, limitations and future directions of the study.

5.2 Discussion

The main objective of this study is to detect the impact of Challenging goals on project performance, with mediating role of knowledge creation and moderating role of Self-efficacy.

Results show that challenging goals was positively associated with both project performance and knowledge creation, the relationship of challenging goals and project performance was mediated by knowledge creation. The results indicate that moderating variable i.e. self-efficacy has significant relation with knowledge creation and project performance, and has insignificant relation with challenging goals and project performance.

The detailed explanation of hypothesis is discussed below:

5.2.1 Challenging Goals and Project Performance

H1: There is positive and significant relationship between Challenging Goals and Project Performance.

First hypothesis one is accepted because results show the significant relationship that (β = .30, t = 3.83, p = .00). The t-value indicates in results that their existence of positively significant relationship, relationship is considered significant when t value is greater than 2. Thus, t value of 3.83 shows a positive significant relationship between challenging goals and project performance. The β co-efficient of .30 indicates the chances if there is a change in one unit of challenging goals then project performance will increase 30%. As findings suggest that challenging goals enhances project performance. Goal setting place evidence that prejudice goals increase performance and productivity (Locke & Latham, 1990). Challenging goals are seeming to be tough in first but when employees put them into routine it becomes easy to tackle the problems regarding performance. Organizations must have a clear picture of challenging goals as when they know what to achieve they are motivated by specific goals and increase their productivity (Gutierrz et al., 2009; Linderman et al., 2003).

Goals stimulate human action that regulated behavior toward attainment of challenging goals. Goal attainment forces them to focus on their specific task and ignore other certain activates to their them as a result goals level of difficulty is correlated with performance (Weldon & Weingart, 1993). Challenging goals become difficult over the time when challenging goals are settled for the groups and as individuals for the groups contribute maximally to achieve group performance (Kleingeld et al., 2011). Challenging group goals are proportional to group performance as members of adhesive teams are more prone to take part in define patterns of behavior to achieve success (O'Leary-Kelly et al., 1994).

Most probably the logic for acceptance of this hypothesis is that projects in nature are complex because of this they need project manager's consideration which plays a vibrant role in attain project goals and achieving desired performance. In project members of teams are in dire need of regular guidance about how to use tools and

techniques to performance their part of task with in time, budget limit and within available resources; all these fall in factor list that lead toward project success.

5.2.2 Mediating Role of Knowledge Creation

H2: Knowledge Creation positively mediates the relationship between Challenging Goals and Project Performance.

Hypothesis about mediation effect got accepted. The results indicate that significance of relationship of knowledge creation as a mediator between challenging goals and project performance. The upper limit is .18 and lower limit is .04 presented by the unstandardized regression co-efficient values are positive and there is no existence of zero value of negative value in the bootstrapped at 95% confidence interval over the indirect effect of the relationship of challenging goals and project performance though knowledge creation. Locke (1967) postulates the evidences about the challenging goals with plentiful ability of knowledge creation have direct positive relation with task performance. Locke and Bryan (1968) provide indirect cushion to hypothesis as knowledge creation solemnly have no effect on performance score but when they are gathered with defined description challenging goals have significant impact on performance through knowledge creation in the organization.

Critics stated that knowledge creation has positively significant relation with reference to performance and productivity through creativity (Davenport & Prusak, 1998; Nonaka & Takeuchi, 1995). Knowledge creation also improves the decision making power of organization that put effect on performance (Mukherjee et al., 1998; Kogut & Zander, 1992). Organizational knowledge give room to knowledge creation for competitive edge as knowledge give awareness about how to make quality product as this competition through knowledge creation make foundation for increase in performance though goals are challenging, and knowledge creation have significant relation with performance (Linderman, Schroeder & Sander, 2010).

The right and require chunk of knowledge to develop a product should be accurately disseminating to the teams so that they can deliver the right product in the

market. Often in organizations, 90 percent of knowledge is tacit. To continue for long run the knowledge creation is important for gazette success of the project. It is a paramount that is being recommended in other industries as well it is fairly important in energy power industry. So, for long term in industries and consistently occurring at the top of project management company's knowledge creation should be given proper attention and focus. If demand chunk of challenging goals is not shared then it become difficult for teams to make updates in the project plan and get desired performance using specific methodologies.

5.2.3 Moderating Role of Self-Efficacy between Knowledge Creation and Project Performance

H3: Self-efficacy positively moderates the relationship between Knowledge Creation and Project Performance

Hypothesis got accepted because results of current study indicates the significance of relationship values of interaction terms (knowledge creation with self-efficacy) β = -.20, p = 0.4. Value of p should be less than 0.05 and 0.04 as it indicates significant effect of self-efficacy as a moderator between knowledge creation and project performance. The unstandardized co-efficient regression beta (β = -.20) value shows one unit change in self-efficacy will bring negative 20% change in project performance.

Empirical studies identified self-efficacy effects the relation of knowledge creation and project performance because self-efficacy through training session with employees brings a sense learning and knowledge creation foster thorough learning which helps to bring motivation and persistence to achieve performance results (Seijt & Latham, 2011). Self-efficacy is the intrinsic part of self-governance as self-efficacy make capable individual to perform challenging task with success, because self-efficacy reflects the motivation one gain through skill and knowledge they have created (Wilson & Narayan, 2016).

5.2.4 Moderating Self-Efficacy between Challenging Goals and Project Performance

H4: Self-efficacy positively moderates the relationship between challenging goal and project performance

This hypothesis got rejected as p value is .08 that is high level of insignificance in the relationship. The value of B coefficient is -.18 which indicates if one unit of change in the self-efficacy then it will a negative impact of 18%. Challenging goals instigate curtailment in the self-efficacy can be notably disturbing for individuals as self-efficacy is the perceptions are forthcoming of putting effort, persistence and involvement for a task. Self-efficacy give confidence to performance challenging task but at the same time goals may bring competition among teams of project and reduce the overall performance.

Setting challenging goals may not enhance the performance because of employees, goal acceptance is a factor that effect performance of employees and affect their efficacy. Challenging goals sometimes creates stress among project team and lead to low performance. There are certain other factors like organizations climate, manager's behavior with employees, deadline for deliverables, reward mechanism of organization will effect on challenging goal setting and performance. This study gives a brief understanding about relation of self-efficacy between the challenging goals and project performance. Because challenging goals bring persistence and passion towards work. Mastery goals demand employees to resolve their problems in a creative way. Furthermore, when employees are provided supervision and guideline it enhances their performance as employees feel satisfied with organization's management.

5.3 Theoretical and Practical Implication

This study endows the recent domain in preceding literature where the relationship of challenging goals was investigated with other variables knowledge creation

and six sigma project. This study make addition in literature of project management by implementing challenging goals in the project base organization can be favorable for obtain successful project. In theoretical perspective, this research study test knowledge creation a variable of importance as it defines a path between challenging goals and project performance. Hence this work comes with understanding of the underpinning theory which affect the self-efficacy of employee's behavior through goal setting theory. From plentiful practical implication of proposed study includes that this study describe challenging goals increase the chance of attaining profit from the project success. Factor of self-efficacy boost the manager to give chances to the employees to handle the difficult task empowerment enchases the performance and overall activity of the project.

Second this study bring commitment among staff of project for the success of the organization and project, manager must allow the employees to give their views for a particular aspect. Giving importance to their views make them to feel that employees need to put more effort to attain settled millstones. Working in teams bring innovation through knowledge creation, as knowledge always created by individuals when their organization have strategic goals foster by self-efficacy give a belief them that they have enough knowledge to handle the uncertain changes if occur in the process of attain goals.

5.4 Strengths, Limitations and Future Directions

This study based on strong methodological method, in order to lessen the prospectus effects of common bias and single source bias data. We collect data of challenging goals, project performance, knowledge creation and self-efficacy from manager and employees of the power plants, project base organizations in Pakistan. This finds that one who is capable to learn more and perform difficult task in an efficient manner enhance performance of the project

It is obvious that cultural differences in specific contextual setting affect the many factors, in the similar setting to all other research of social sciences and this is the main limitation of this study. Furthermore, due to limited time resource

constraints as this research work is conducted to sectional fulfillment of MS degree requirements, limited time did not allow to expand the research on broader level. Data was collected from power plants project of Islamabad, Lahore and Jauharabad and sample size consist of 281 respondents which is not ample to show a factual image of power plants, in the fully world.

Because of limited time, only one mediator and moderator is studied but the future research can broaden the model and observe the other structure that affect the existence of challenging goal and influence the project performance. For further research it is recommended that some model can be tested on the personality traits, emotional intelligence and work environment factors in other project sector and may generate different results in comparison to this study.

5.5 Conclusion

The proposed study conducted to explore the impact of challenging goals on project performance and mediating role of knowledge creation along with moderating role of self-efficacy. Goal setting theory we used as supporting theory for defining the relationship of variables, and this research work was conducted in contextual setting of project base organization results wind up that challenging goals play an important role to project performance and in project base organization.

The major contribution of present study is that the current study has denoted a lot in literature because a very limited work found which has been done on the impact of challenging goals on project performance with mediating role of knowledge creation and moderating role of self-efficacy. Four hypothesis of this research are tested in this concern, hypothesis (H: 1, H: 2, H: 3) are accepted and hypothesis (H; 4) is rejected in Pakistani context. We confer with all the justifications of the rejected and accepted hypothesis and the theoretical and practical implication of study also explained. Teams in projects must be allowed to give creative solutions of problems to break the structural barrio and enhance performance. To enhance their capabilities for enhancing performance team must have the availability of

certain tools and techniques, training sessions and supervisory support to tackle technical aspect of the project.

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Appendix-A

Questionnaire

Dear respondent,

I invite you to participate in a research study entitled "**The Impact of Challenging goals on Projects Performance with Mediating Role of Knowledge Creation and Moderating Role of Self-Efficacy** ". I am student of MS Project Management from Capital University of Science & Technology, Islamabad. Please do not mention your name and there are no known risks to participation. Your responses will remain confidential and anonymous and will only be used for academic purposes.

Thank you for your assistance in this important endeavor.

Sincerely,

RIDA AMJAD

MS (Project Management) Research Student

Faculty of Management and Social Sciences

Capital University Science and Technology, Islamabad

Section: I

Gender	**1**	**2**
	Male	Female

Age	**1**	**2**	**3**	**4**	**5**
	18 - 25	26 – 33	34 – 41	42 – 49	50 and above

Qualification	**1**	**2**	**3**	**4**	**5**	**6**	**7**
	Matric	Inter	Bachelor	Master	MS/ M.Phil	PhD	Post PhD

Experience	**1**	**2**	**3**	**4**	**5**	**6**
	0-5	6-10	11-16	17-22	23-28	29and above

Section II: Challenging Goals

Strongly Disagree(SD)=1Disagree(D)=2, Neutral(N)=3, Agree(A)=4, Strongly Agree(SA)=5

	Questions	**SD**	**D**	**N**	**A**	**SA**
1	We found it very difficult to achieve the project goals.	**1**	**2**	**3**	**4**	**5**
2	It was relatively easy to achieve the project goals.	**1**	**2**	**3**	**4**	**5**
3	The project goals were challenging to us.	**1**	**2**	**3**	**4**	**5**

Section III: Knowledge Creation

Strongly Disagree (SD) =1, Disagree (D) =2, Neutral (N) =3, Agree (A)=4, Strongly Agree(SA)=5

	Questions	**SD**	**D**	**N**	**A**	**SA**
4	The Team generated many ideas while doing the projects.	**1**	**2**	**3**	**4**	**5**
5	Doing this project enhanced the team's ability and knowledge of the project team	**1**	**2**	**3**	**4**	**5**
6	The solutions found in this project were clearly unique and innovative to the company	**1**	**2**	**3**	**4**	**5**

Section IV: Project Performance

Strongly Disagree (SD) =1, Disagree (D) =2, Neutral(N) =3, Agree (A) =4, Strongly Agree (SA)=5

	Questions	**SD**	**D**	**N**	**A**	**SA**
7	Projects are completed on time.	**1**	**2**	**3**	**4**	**5**
8	Projects met budget requirements.	**1**	**2**	**3**	**4**	**5**
9	Projects met expectations.	**1**	**2**	**3**	**4**	**5**
10	Project team members are satisfied to work together.	**1**	**2**	**3**	**4**	**5**
11	Benefits of projects to the organization are high.	**1**	**2**	**3**	**4**	**5**
12	Projects resulted in sales growth.	**1**	**2**	**3**	**4**	**5**
13	Projects helped the organization to increase market share.	**1**	**2**	**3**	**4**	**5**
14	Projects helped the organization improve its competitive position.	**1**	**2**	**3**	**4**	**5**

Section V: Self-Efficacy

Strongly Disagree(SD)=1, Disagree(D)=2, Neutral(N)=3, Agree(A)=4, Strongly Agree(SA)=5

	Questions	**SD**	**D**	**N**	**A**	**SA**
15	When I make plan, I am certain I can make them work .	**1**	**2**	**3**	**4**	**5**
16	If I can't do a job for the first time, I keep trying until I can .	**1**	**2**	**3**	**4**	**5**
17	I give up on things before completing them.	**1**	**2**	**3**	**4**	**5**
18	I avoid facing difficulties.	**1**	**2**	**3**	**4**	**5**
19	When I have something unpleasant to do, I stick to it until I finish it.	**1**	**2**	**3**	**4**	**5**
20	When I decide to do something , I go right to work on it.	**1**	**2**	**3**	**4**	**5**
21	When trying to learn something new, I soon give up if I am not initially successful.	**1**	**2**	**3**	**4**	**5**
22	Failure just makes me try harder .	**1**	**2**	**3**	**4**	**5**
23	I am a self-reliant person.	**1**	**2**	**3**	**4**	**5**
24	I give up easily.	**1**	**2**	**3**	**4**	**5**