Name of Publisher: BRIGHT EDUCATION RESEARCH SOLUTIONS

Area of Publication: Business, Management and Accounting (miscellaneous)



## Journal of Management & Social Science

**ISSN Online:** 3006-4848 **ISSN Print:** 3006-483X

https://rjmss.com/index.php/7/about



## [Impact Of Role Ambiguity And Role Conflict On Project Success With Moderating Role Of Top Management Support In Construction Industry Projects Of Pakistan]

#### Ar. Dr. Omer Shujat Bhatti\*

Associate Professor, Department of Architecture, School of Architecture & Planning, University of Management & Technology, Lahore. Corresponding Author Email: <u>omershujatbhatti@gmail.com</u> **Ar. Saira Naeem** Assistant Professor, Department of Architecture, School of Architecture & Planning, University of

Management & Technology, Lahore. <u>saira.naeem@umt.edu.pk</u>

#### Ar. Madiha Ghafoor

Assistant Professor, Department of Architecture, School of Architecture & Planning, University of Management & Technology, Lahore. <u>madiha\_ghafoor@umt.edu.pk</u>

Review Type: Double Blind Peer Review

### ABSTRACT

Project successful completion is the ultimate goal of any project. In Architecture, Engineering & Construction (AEC) industry of Pakistan, being one of the largest industry of Pakistan, Projects are a key factor to achieve future state of any organization. With multiple teams serving in multidisciplinary domains for multiple projects, these team members suffer from role ambiguity and role conflict which leads to poor employee performance, higher turnover rates and lack of commitment. To overcome these, top management support is a major variable yet to be explored in the industry as a moderator. Research study explored impact of role ambiguity and role conflict on project success with moderating role of top management support in the context of AEC industry in Pakistan from project sites of twin cities. 300 questionnaires were circulated, 61% online and 89% physically responded leading to overall 75% feedback. It was concluded that Role conflict has a significant negative impact on the project success while top management support has a positive significant impact on the project success. Role ambiguity did not have a significant impact on the project success in AEC industry of Pakistan. It was mainly due to organized and specific designated roles through job descriptions and human resource management practices. Based on the analysis it was concluded, top management support moderated the impact of role conflict on the project success but failed to establish any significant relationship to moderate between project success and role ambiguity as later was unable to impact project success.

**Keywords:** Role ambiguity, role conflict, project success, Top management support, Architecture, Engineering & Construction.

#### Introduction

Construction and engineering is a major industry in Pakistan employing general public at large. Employees of projects have to work from location to location and site to site, with variation in assigned tasks / project roles while working with multiple teams and team leads under challenging situation and conditions (Khan et al., 2024). With variations in scope, scale of services and skill set requirements, team members and employees suffer from issues of role conflict and role ambiguity in construction projects. It not only effects their job responsibilities but also creates issues relating to team work, cohesion and cooperation between team members working on projects (Talpur et al., 2017). Being an under-developed economy and lack of awareness towards formal mechanisms or documentation through contracting framework, teams and their members face issues related to the job responsibilities and final deliverables (Bhatti & Iftakhar, 2023). This further creates uncertainty and leads to issues like job stress, lack of communication, employees burnout, higher rate of turnover, etc. Top management support in such a mechanism is indeed a blessing leading to clarity of objectives and line of actions to be followed with emphasis on timely completion of projects (Ahsan et al., 2023). Lack of top management support not only creates confusions, ambiguities and lack of interest but also leads to higher rate of onsite incidents/accidents and creating threatening situations for the team to work with focus and cohesion. With large scale projects in the context of Pakistan i.e. CPEC (China Pakistan Economic Corridor), project team members role

conflict and role ambiguity becomes critical to be observed to ensure they could achieve their targets and deliverables while retaining good health conditions and excelling in their respective domains under supervisory support (Gul et al., 2025). With the help of this study, project managers and organizations of engineering and construction industry could baseline the critical factors leading to role ambiguity and role conflict issues and how top management support may help resolving these issues effectively and efficiently within timeline of the projects to deliver targeted goals.

Study aimed to explore the role conflict and role ambiguity issues amongst the engineering and construction industry of Pakistan with moderating role of top management support to resolve these issues to achieve project success. Hence following major research objectives were set forth:

- i. To explore the impact of role conflict on the project success.
- ii. To explore the impact of role ambiguity on the project success.
- iii. To study the impact of top management support on project success.
- iv. To explore the impact of top management support as a moderator on the relationship between role conflict and project success.
- v. To explore the impact of top management support as a moderator on the relationship between role ambiguity and project success.

In order to keep the research endeavor manageable, following major research delimitations were set forth.

- i. Study primarily focuses only on the Construction and engineering industry of Pakistan.
- ii. Data collection would be done on the basis of convenience sampling.
- iii. Data would be collected from project teams and their associated sites close to the Islamabad and Rawalpindi cities due to time and cost constraints.

#### Literature Review

#### Primary Concepts & Definitions

#### Project

A project is a set of packages and allied activities targeted with delivering desired outcomes and deliverables to complete the targeted aims. It is a unique set and subset of packages, phases, work break down structures and activities devised to deliver a unique devised and targeted / anticipated set of results. Results may be tangible or intangible. These are temporary tasks or endeavors undertaken with the purpose to create a new and unique product, anticipated service, or targeted results. Projects produce deliverables while fulfilling their objectives and purposes (PMI, 2016).

According to PMI, An **objective** can be defined as follows:

- i. A targeted outcome towards which anticipated work and its allied tasks have to be directed.
- ii. A new futuristic position with a strategic aim to be attained,
- iii. A purpose or objective aimed to be achieved,
- iv. A result or outcome awaited to be obtained,
- v. A product or a set of products aimed to be produced, or
- vi. A service quality or level to be performed.

According to PMI, A deliverable can be defined and considered as any new, unique and

verifiable / validable product, anticipated result, or targeted / anticipated capability to be able to deliver and perform an upgraded or higher quality service that is targeted or required to be developed or produced to achieve a complete set of process/processes, phase/s, or project. Project deliverables can be defined and classified as tangible or intangible (PMI,2018).

Achieving of project success criteria and obtaining objectives may produce, deliver or develop one or more of the following deliverables or even combinations of them:

- i. A unique product as a component of an existing or new item/s, an upgradation, advancement, enhancement or rectification / correction of an existing item/s or a new item itself i.e. defect detection and removal.
- ii. A unique set of services or ability to perform an improved level service leading to a business need or function which may support production / distribution.
- iii. A targeted unique result/s, which can be an outcome or a document or report which may support or assist in improving the existing body of knowledge and functionality.
- *iv.* A unique set of combination/s of one or more targeted products, upgraded services, or anticipated results. (PMI, 2016).

The venture business case is an archived financial possibility and idea about used to build up the legitimacy of the advantages of a chose part missing adequate definition and which is utilized as a reason towards the approval of a further task administration exercises. The business case records the targets and explanations behind task commencement (Baig et al., 2019). It helps to measure the task accomplishment toward the finish of the venture against the undertaking goals (Shah et al., 2023b). The business case is a task business archive that is utilized all through the undertaking life cycle. The business opportunity or business case might be utilized before the undertaking inception and may result in a decisions towards a go/no-go choice for the task (PMI, 2016).

#### **Project Success Measurement Criteria**

A standout amongst the most widely recognized difficulties in undertaking project management and administration is deciding if a project is fruitful. Customarily, the project administration measurements of time, cost, extension, and quality have been the most vital factors in characterizing the accomplishment of an undertaking. All the more as of late, professionals and researchers have verified that venture achievement ought to likewise be estimated with thought toward accomplishment of the undertaking destinations and targeted deliverables (Shah et al., 2023a). Project team members, stake holders and partners may have distinctive thoughts with respect to what the fruitful finishing of a task will appear or look like as desired and which factors contribute to the most imperative (Baig et al., 2022). It is basic to plainly archive and document the task destinations or deliverables and to choose goals that are quantifiable. Three inquiries that the key team members and stakeholders and the undertaking Project Manager should be able to answer are:

- i. What does deliverable/result/outcome/achievement look like for this unique undertaking as a project?
- ii.By what method/means/basis will project achievement/completion be estimated?
- iii. What components may affect/delay/fail achievements of the unique project?

Undertaking Project Scope Management incorporates and ensures that the procedures and the processes required to guarantee that the scope, packages, phases and tasks incorporates all the work required, and primarily the only work required, finishing the venture effectively. Dealing with the assigned or allied task extension is essentially concerned about characterizing / devising and controlling what is included and is excluded in the venture as a whole. Fulfillment of the undertaking degree is estimated against the task administration plan, while finishing of the item extension is estimated against the item prerequisites. (PMI, 2016). Undertaking Resource Management incorporates the procedures to recognize, get, and deal with the assets required for the targeted successful completion of the task. These procedures help ensure that the correct assets will be accessible to the project & stakeholders and Project manager team at the ideal time and place. (PMI, 2016). The project team comprises of people with defined, detailed out jobs and duties who work on the whole to accomplish a common undertaking of the project objective. The project manager ought to put reasonable exertion in securing, overseeing, propelling, and engaging the undertaking team (Gul et al., 2025).

As a leader, the project manager acts as a supervisor who is additionally in charge of proactively creating team aptitudes and abilities while holding and enhancing team fulfillment and inspiration (Hanisch, Lindner, Mueller, & Wald, 2009). The task administrator ought to know about, and buy in to, proficient and moral conduct, and guarantee that all team members hold fast and develop strong team relationship and dependence to these practices. The project manager ought to put resources into individual Emotional Intelligence by enhancing inbound (related to self-administration and mindfulness) and outbound (related to relationship administration) abilities (Bryde, 2003). Research recommends that task teams that prevail with regards to creating team Emotional Intelligence or turn into a candidly able gathering are more compelling. Furthermore, there is a decrease in staff turnover as team members of the project are more committed to their jobs and assigned tasks with higher level of motivation and inspiration from the Project Manager to enable better rate of project success and better deploy, ent for public at large and enhancing end users satisfaction as well (Bhatti et al., 2025).

The globalization or large scale diversive locations of the tasks has advanced the requirement for developing virtual teams that have the abilities and strengths to work on a similar undertaking, however are not colocated at a similar site. The accessibility of correspondence innovation, for example, email, video conferencing, web based communications, electronic gatherings, and video conferencing has been a major source that has made virtual teams achievable (Bhatti et al., 2024). Overseeing virtual teams has extraordinary favorable circumstances, for example, having the capacity to utilize uncommon skill on a project team notwithstanding when the subject domain expert isn't geographic consolidating in the equivalent zone, representatives who telecommute/communicate through technical resources/gadgets and their allied workspaces and workplaces, and incorporating individuals with portability confinements or inabilities (Ahsan et al., 2023). The difficulties of overseeing virtual teams are fundamentally in the correspondence area, including a conceivable sentiment of

segregation, hesitation and reluctance in exploration or sharing information and experience between diverse team members, and troubles in following advancement and profitability, conceivable time zone distinction and social contrasts (Bhatti & Huma, 2023). As per the Project Management Body of Knowledge i.e. PMBOK (PMI,2016), One of the most critical and common challenges in project management practices is determining and baselining whether or not a project is successful at its completion and has achieved its purpose. Traditionally and most frequently, the project management metrics of triple constraints i.e. time, cost, scope, and added or targeted quality have been the most significant and important factors in devising the success of a project and its acceptable criteria. In recent era of project management practices, practitioners and filed / academia scholars have determined and baselined that project success should also be measured with consideration and opinion toward achievement of the project objectives and purposes. Project stakeholders, clients, sponsors, end users, project teams may have different opinions and ideas as to what the successful targeted completion of a project will appear and look like and which factors or aspects are the most important (Bhatti et al., 2024). It is critical to clearly and precisely document the project objectives, purposes and to select objectives that are quantifiable and measurable. Three primary questions that the key stakeholders, project teams, end users, clients and the project manager should precisely answer are:

- i. How can success be described for this specific project?
- ii. How success of the project will be measured?
- iii. What factors, influences, aspects and circumstances may impact success?

The key answer to these important questions should be explored and documented and must be agreed upon by the key stakeholders, sponsors, clients and the project manager. Project success may include an additional method or criteria linked to the organizational strategy or organizational objectives and how to the delivery of business results can be related with this specific project (Lam, Chan, & Chan, 2007).

A construction project is a unique entity which comes into existence mostly by the needs and requirements of a future state of the client. In order to satisfy and facilitate the client's requirements in aspects of schedule, finances, cost and quality, diversified procurement methods and procedures are used to increase and enhance the chances of successful completion for the complex and complicated sequence and arrangement of a devised set of activities (Rolstadås, Tommelein, Morten Schiefloe, & Ballard, 2014). The most frequently used traditional design-bid-build system has been extensively used in delivering and contributing to construction projects for many decades all across the globe. However due to the rise in the extensive number of disputes, conflicts and the growing significance to meet the client's requirements have brought to the need of exploration for other alternative procurement systems that may eliminate or reduce the stated issues (Lam et al., 2007).

Project management successful completion of projects are related with indices concerned and associated with the success based accomplishment and acknowledgement of the project's cost, schedule, quality and safety with wellness as well as environmental improvement objectives (Turner & Xue, 2018). Based on a comprehensive study that the effective performance indices which are associated with

the project management and project success are consists mainly of six critical and significant indices as stated below (Heravi & Ilbeigi, 2012):

- i. Related with cost, Cost Performance Index.
- ii. Related with procurement and billing, Billing Performance Index.
- iii. Related with time and sequencing of activities, Schedule Performance Index.
- iv. Related with the wellness of the project team and environment, Safety Performance Index.
- v. Related with quality control and assurance, Process Quality Performance Index.
- vi. Related with environmental and overall organizational behavior, Environmental Performance Index.

Project management success is directly related with the success of the projects. The search for the Critical Success Factors (CSF) is as old as 1960, when Daniel brought in the lime light the Critical Success Factors in co-relation with the management based information crisis which was primarily the root cause by the abrupt and too rapid changes in the organization. Later in1970's, the focus shifted to the measures and analysis of the factors associated with cost, time and functional improvement strategies and implementation and how these implementations have lead to improved delivery systems design and development. Primarily, the academic discussion initiated in 1980's when focus went beyond time, cost and functionality factors. In this time era, researchers such as Pinto & Slevin 1987 produced a list of variables effecting the project success (Viswesvaran, Deshpande, & Joseph, 1998). This list consisted of 10 variables is now considered a classic piece of research work. A recent development is associated with the Turner (1999) model of seven forces with factors such as context, sponsorship, definition, attitude, systems, people and organization as the major components of the forces. With the view of Christenson and Walker (2008), a well organized, communicated and defined / accepted project vision plays critical factors in project success. However Shanhar et al. (2002) proposed that as projects are very specific in nature and are unique endeavors in their own type and nature, these success factors should be devised on the basis if the project type and work. Hence a more project specific approach towards devising Critical success factors should be adopted by the project managers and their respective team members (Rolstadås et al., 2014).

#### **Top Management Support**

Top management support by the top managers and their respective teams play an integral role in the success of the projects. It creates conditions suitable for the team members to perform to their best and deliver the targets goals as per desired (Staehr, 2010). Project scope is mostly defined by the Top management. Their engagement ensures that the scope is devised as per the needs of the project and with a clear understanding that projects will be able to deliver their targeted scope. It also helps in devising the teams required for the successful completion of the devised scope (Boonstra, 2013). Hence they have the direct control over the whole project through engagement and always keep their monitoring engaged throughout the life-cycle of the project through project manager and team members. Through this direct engagement, they are always aware of the scarcity and needs of the human and allied resources and hence can be requested to facilitate and engage more resources as per the need of the

project and its allied packages and activities. Its indeed the top management support that establishes a reliable and trust condition amongst the major project players (McComb et al.,2008). With the research exploration done by Green (1995), it was concluded through study of more than 213 Research & Development projects that with top management support, the chances of project failures reduces significantly (Rehman Khan et al., 2014).



Figure 01Top Management Support effectiveness

Confidence is one of the major intangible parameter always associated with the top management support. It not only enables Project managers and their respective team to perform well but also keep them active and engaged throughout the project life cycle enabling higher efficiency and effective resource management (Morgan, 2012). Top management support enables higher level of leadership skills amongst the project managers and their support teams (Rehman Khan et al., 2014). It is also an integral reciprocal part that with top management support, their expectations is also high and project managers and teams have to deliver higher performance to meet these expectations (Cowan-Sahadath, 2010).

Project teams come under the direct influence of the policies, protocols and procedures devised, approved and implemented by the top management towards supporting the projects and their respective teams. According to the theory of organizational justice, project managers, project team members and allied teams feel self motivated and satisfied with their jobs on projects where top management support is prevailing (Viswesvaran et al., 1998). Higher level of ethical behavior with positive attitude were observed in the organizations where top management support prevailed and followed organizational justice. As modern day organizations face a lot of competition and uncertain conditions in projects, top management support is not always present (Sommer, 2012). Under these circumstances, project team members and associated employees may develop certain opinions about the top management based on the ambiguous stimuli which primarily includes consistency, bias, reversibility, accuracy, compatibility and representativeness (Leventhal,1980).

Research exploration of top management ethical behaviors lead to a positive relationship towards favorable and targeted outcomes from the projects (Batool et al., 2024). It encourages improved ethical behaviors amongst the first line managers and project managers which later on inculcates into the project team members and their higher level performances. As per the research done by the De Hoogh and Den Hartog (2008), it was reported that a positive relationship exist among the ethical and

experienced leadership of the chief executive officer (CEO) or Head of Department (HoD) Project Management Office, higher effectiveness and efficiency of the top management team members, and enhanced optimism among the top managers and executives leading to improved performance of the overall project teams (Shin, Sung, Choi, & Kim, 2015). With recent developments and competition in the projects enterprise on global scale, top management support and engagement with the project managers and project teams is an integral element towards promoting success environment. With higher level of stress and intensification & higher pace of technological innovation through accelerated market demands, it is evident to keep up with the competition to survive in the projectized world. Hence the top management's ability to be proactively engaged with the organizational and team level strategies and their implementation is necessary to keep the project teams motivated and could help them seek guidance and mentorship for higher level of performance (Sperber & Linder, 2018).

#### **Role Ambiguity**

Role ambiguity is a condition which creates ambiguity or lack of clarity and understanding towards how a work would be performed by the employees. It creates poor understanding or even mis-understanding towards delivering their duties and assigned tasks. This creates issues and hurdles towards delivering their duties (Singh et al., 2012). As a result of this condition, it creates stress on the employees to perform but they are unable to deliver the targeted performance due to lack of understanding and ability to perform (Trépanier et al., 2013). Hence, with a higher role ambiguity, employees feel uncertainity and lack clarity about how to deliver adequate job/assigned task and work performance and hence stress is inevitable (Glissmeyer, Bishop, & Fass, 2007). There are multiple scenarios and phenomenas role ambiguity may lead to, some of which mainly include employee burnout, emotionally getting exhausted and also depression (Schmidt et al., 2014). With unclear line of actions and directions to follow and to expect the outcomes while employees are yet unclear to perform their tasks and jobs creates lack of interest and attraction towards job and performance. Hence it fuels the aggression and may lead to desire to leave the job and having negative energy and mindset towards the job and work itself (Glissmeyer et al., 2007).

It has been observed that when role ambiguity is low or not existing with the help of organizational structure and systems, employees on the project and project team members were able to perform well as they are certain about their work and activities. It helps employees to be able to hold a positive mindset towards improved level of performance focusing on their work. Hence their chances of job turnover or turnover rate reduces enormously and helps the project team to perform well in an integrated manner (De Clercq & Belausteguigoitia, 2017). Role ambiguity has been considered as an important aspect and outcome of interest in the managerial and organizational sciences, since it was introduced to the literature back in the 1960s (Kahn et al., 1964). The core concept refers to a "lack of the necessary information available to a given organizational position" (Rizzo et al., 1970, p. 151). More precisely and specifically, it implies and confers that there is a lack of clarity and understanding in the communication of expectations or flow of information to fulfill a task for an employee's responsibilities or in the communication of ways or methods for employees to fulfill and attain those

expectations as per desired by the organization and companies engaged with the projects (Deluga, 1989; Hershcovis and Reich, 2010; Rizzo et al., 1970).

Role ambiguity has been correlated with occupational stress in the organizational settings. It has been observed that role ambiguity has also been associated to be lead to negative outcomes not only for the employees but also for the organizations itself (Beehr, 1995; Deluga, 1989; Hershcovis and Reich, 2010). Multiple consequences and concerns have been observed in the employees suffering from role ambiguity which mainly cinludes but not limited to poor organizational commitment, low job performance, poor job satisfaction, work family conflicts and issues, lower self esteem, depression and higher turnover rates. Apart from the above stated, one of the major aspect which is highly affected by the role ambiguity is the employee creativity to address the issues and problems associated with their tasks and jobs. As employee creativity is an essential skill needed for the design & construction industry, its presence is pivotal to the progress of the organization towards developing its competitive edge in the enterprise. Within the design and construction industry projects, time pressure on the delivery of the projects is a major stressor for the employees to manage and deliver their targeted outcomes and achieve their deadlines. With role ambiguity, time pressure multiples many folds leading to poor performance and lacking job satisfaction which hurdles the employees overall job commitment and creates concerns for the organizations to keep their targeted performances towards their survival ("Title: Role ambiguity and role conflict amongst university academic and administrative staff: a Nigerian case study Name: Mandy Jollie Bako," n.d.).

#### **Role Conflict**

The literature and ground of role conflict began from two different schools and perceptions of role theory, named as structural-functional and inter-actionist (Stryker and Macke, 1978). As per Stryker and Macke (1978), the expansion and exploration of structural role theory has identified the major five forms of role conflict:

- i. structurally and functionally competing demands or needs of various roles;
- ii. structurally and functionally competing demands and needs arising from different parts or components of a given role-set;
- iii. conflicting reactions of the same individual to the same kinds of behaviors;
- iv. differences or lack of clarity with higher ambiguity in the expectations of others; and
- v. conflict between role expectations, its functional requirements and individual's selfconcepts.

The phenomena of role conflict occurs when two or more demands or needs arise simultaneously and compliance or acceptance with one of the two or more demand would make acceptance or compliance or getting along with the other more difficult or in some cases even impossible to deliver and achieve its objectivity (Pandey and Kumar, 1997; Kahn et al., 1964). When role conflict occurs, the individual is unsure how to perform tasks, which task should be completed and when to execute the task (Tidd and Friedman, 2002). For instance, a purchase or procurement staff reporting administratively to the manufacturer or fabricator or factory supervisor and functionally to the head or lead of the purchasing division would experience incompatible expectations or anticipated targets as the former may emphasize and focus on the

availability of procured and secured raw materials while the latter would be stressing and opting for achieving cost effectiveness (Teh, Yong, Arumugam, & Ooi, 2009).

Role conflict occurs in projects when there are incompatible and poorly coordinated demands placed upon a person or a team member or team itself such that compliance or acceptance with both would be difficult. Project team members experience role conflict when they find themselves pushed or pulled in various directions or by multiple organizational units or people as they try to respond to the many statuses or ranks with diverse responsibilities they hold. Role conflict can be relatively for either a short period of time during a project, or a long period of time spanning over multiple phases or packages in one or more projects, and it can also be connected to situational and circumstances based experiences (Koustelios, Theodorakis, & Goulimaris, 2004). As per stated by the role theory, role conflict has been associated with the existence of two or more sets related to incompatible tasks / jobs / demands involving the work related or work based issues leading to poor fulfillment or lack of fulfillment of any one of the stated tasks. As this condition leads to stress and hence is reictly associated with the poor creativeness and novelty of the human resource and overall behavior of the team engaged. It hampers one's ability to think out of the box to develop creative solutions to the faced issues or assigned tasks. As a result the overall team performance gets jeopardized due to the performance of one or more individuals suffering from role conflict, acting as a bottle neck for the success of the project as a whole (Elloy & Smith, 2003). On the contrary, it has also been observed by (Teng & Cheng, 2010) that using role conflict to identify a human resource hidden skill set can be beneficial to the project success. Once an employee is faced with role conflicts, he or she tries to identify the skillset, allied resources to facilitate them achieve their targeted goals and objectives through successful deliverables (Yongkang, Weixi, Yalin, Yipeng, & Liu, 2014). Multiple allied factors may also contribute small share to the overall performance of the employee in a negative manner may include stress, strain, emotional engagement, emotional intelligence, creativity, flexibility, time management, etc (Alam, Haerani, Amar, & Sudirman, 2015).

#### **Theoretical Reflections**

It is evident that role conflict and role ambiguity creates stress and lack of focus & concentration amongst the team members working on the projects. As these team members work under harsh, open and remote locations, any conflict or ambiguity in role, actions, protocols or procedures could turn into a fatal accident or incident. Due to lack of awareness and trainings for the health and safety of the team members at most construction sites in Pakistan, top management support role is of significant important as it leads and interferes to avoid such incidents and mitigates the higher chances of their prevalence on the construction site. Project success is indeed an integral effort of the whole team which requires clarity amongst the team members about their work, tasks and responsibilities and supervisory role tends to play not only an advisory role but also as a mentor to help reduce the gap of communication and decision making amongst the team members.

#### Identify Literature Gap Pertaining to the Topic Under Study

According to the literature review developed for the study, it was evident that role

conflict in project team members and role ambiguity in the context of AEC i.e. Architecture, Engineering construction projects in Pakistan have not much been explored. Though the phenomena were observed by author (Professional Architect) many times, yet exploration in a theoretical framework were not conducted previously. As large scale projects in the construction industry are underway towards economic uplift due to socioeconomic and political scenarios change in the recent past, it is pivotal to explore these areas with respect to ensure that project managers and team leads may develop strategies and mechanisms to be incorporated to ensure higher rate of success in the projects.

Construction and engineering industry has been one of the primary industry in Pakistan towards engaging large scale public as their team members and employees (Gardezi, Manarvi, & Gardezi, 2014). With most of the work execution happening on sites and harsh environments, it is vital to focus on how teams may work without any role conflicts and role ambiguities. Project success is the most vital and critical factor to satisfy in the project life cycle. It baselines the most important deliverable of the project itself. Project success in construction and engineering projects are highly dependent on the team clarity about goals, objectives, strategies, preferences, priorities, protocols, methods, mechanisms and other allied system components. With higher level requirements for quality, cost, scope and schedule project teams suffer from much stress to meet deadlines and deliver project deliverables as per targeted deadlines. Project success for construction and engineering projects in Pakistan need further exploration in the context of recent time developments in large scale projects (Abbas, Din, & Farooqui, 2016).

Role conflict is a major hurdle towards delivering project success amongst the project team members working on engineering and construction projects. It occurs mainly due to multiple tasks overlapping each other with different outcomes which require either one of them to be prioritize or canceled for the other. If one is happening, other would not be able to get executed. Such a situation will yield compromising situations for the team members where the clarity of how to perform a task is unclear, when to start, when to finish and what will be the outcome? Such conflicts yield stress on the team members and they lack confidence and understanding of how to perform up to their best and hence the quality, scope, schedule and cost performance set criteria could not be met (Teh et al., 2009). Role ambiguity is directly related to the set forth demand of work from a team member who is unable to deliver the task due to lack of understanding of how to do that work. Due to lack of clarity of how to perform a specific job, it creates stress amongst the project team members and hence their performance declines. It may lead to employee burnout, emotional exhaustion, depression, etc (De Clercq & Belausteguigoitia, 2017). Due to lack of clear directions and set actions, team members face lack of confidence and hence were reluctant to adopt to new needs of the project. Hence the project success may directly suffer due to issue of role ambiguity amongst the team members (Siegall, 2006).



Following hypothesis are generated on the basis of the proposed model. Following hypothesis are generated on the basis of the proposed model.

H1. Does role conflict has an impact on the project success?

H2. Does role ambiguity has an impact on the project success?

H3. Does top management support has an impact on the project success?

H4. Does top management support moderates the impact of role conflict on project success?

H5. Does top management support moderates the impact of role ambiguity on project success?

#### **Research Methodology**

#### **Population Frame**

Employees serving in the construction and engineering industry with focus on those working on / at construction or project sites, design firms, design offices, site coordination offices, project management offices for the construction associated projects, etc.

#### Sample Selection

Sampling would be done on the basis of purposive sampling. On the basis of the developed literature review, targeted sample size was 200. Sample was taken from multiple project sites and teams located within the premises of Islamabad and Rawalpindi.

#### Unit of Analysis

Construction and engineering industry employees would be the unit of analysis. These mainly include Designers, Architects, Engineers of Civil, Mechanical, Electrical, Plumbing, Heating, Ventilation & Air Conditioning domains, Project managers, Construction managers, construction supervisors, site managers, senior labor staff, etc.

#### **Time of Study**

Timeline followed for the study was mainly 4 months starting from September-December, 2018. Cross Sectional time horizon was followed for the research. Data was collected from multiple project sites and locations during the study period. Focus was to collect data from the sites where team members have already worked in multiple locations under for multiple projects with different teams and served with different clients. Targeted employees of industry were mainly teams including design teams focusing on architecture, interior and project designing, construction teams, fabricators and renovation projects, etc.

#### Instrument Development / Selection

Adapted Questionnaires would be used as per stated below with respect to each research variable:

Variable	Instrument	
Project Success	Robey et al. (1993), Journal of MIS	
Top Management Support	Jemino et al. (2007), Journal of Management Information	
Systems		
Role Ambiguity	Gong et al. (2001), Journal of Applied Psychology	
Role Conflict	Perrewe et al. (2004), Academy of Management Journal	

Online as well as on-site questionnaires were used to collect data. In order to facilitate the project team members and units of analysis, the questionnaire was also briefed at the locations where data collection was done physically on sites, offices, etc. Correlation & Regression analysis would be used using SPSS (Statistical Package for Social Sciences) software version 16.

#### **Data Analysis & Results**

Data was collected through online questionnaires and on site data collection from multiple sites. Following are the demographic findings:

#### Demographics

Overall	Circulated	Responded	Percentage	Overall Percentage	
Online Questionnaires	150	92	61 %		
On Site	150	134	89%	<b>75</b> %	
Total	300	226			
Gender		Male		Female	
<b>Online Questionnaires</b>	31 (34%)		61 (66%)		
On Site	113 (84%) <b>63</b> %		21 (16%) <b>37</b> %		
Percentage					
Professions	<u>s</u> Co		Per	centage	
Project Managers		28		12%	
Architects	22			10%	
Engineers		35	15%		
Designers		24	11%		

<b>Construction Managers</b>	26	12%
Construction Supervisors	19	8%
Site Managers	11	5%
Technicians	15	7%
Interior Designers	16	7%
Fabricators	15	7%
Allied & Vendors	15	7%
Total	226	100%

On site questionnaires were filled from these sites:

- 1. Top City-1.
- 2. Bahria Enclave (Design Wing).
- 3. Riphah University Sihala Campus Site.
- 4. Project Directorate Railway Hospital Rawalpindi.
- 5. Riphah University I-14 campus auditorium site.
- 6. Project Directorate AIOU H8 campus.
- 7. GEO Green Head Office, Chak Shahzad Islamabad.
- 8. COMSIAN Consulting, CIIT Islamabad.
- 9. Shujat & Omer Architects, Islamabad.
- 10. Naveed Aslam & Associates.
- 11. Architects Azar Raza Khan.
- 12. EDIFICE Architects & Designers.

On site respondents were primarily Architects, Designers, Engineers, Site supervisors, Design team members including team leaders, design lead, etc. As data was collected to analyze the Impact of role ambiguity and role conflict on project success with moderating role of top management support in Construction Industry projects of Pakistan, collected data was then tested for reliability.

#### **Reliability Test**

Collected data was tested for reliability using software IBM SPSS (Statistical Package for Social Sciences) Version 16. The test used for reliability of data was Cronbach's  $\alpha$ . The number of questionnaires consisted of 226 with 27 questions. The reliability test for each variable and overall is shown below:

			•	
	Variable Name	Mean	Cronbach's Alpha	N of Items
•	PS	3.698	0.745	9
	TMS	3.959	0.756	3
	RA	4.020	0.709	7
	RC	2.814	0.893	8

 Table 01:
 Descriptive Analysis and Reliability of variables

Project Success Cronbach's Alpha value is 0.745 in the current study, the Cronbach's Alpha value of Top Management Support in the study is 0.756, the Role Ambiguity Cronbach's Alpha value in the current study is 0.709 and Role Conflict Cronbach's Alpha value is 0.893.

	1	2	3	4
1. Project Success	1			
2. Top Management Support	• 522 <sup>***</sup>	1		
3. Role Ambiguity	.507***	·493 <sup>***</sup>	1	
4. Role Conflict	315***	289***	144*	1

\* p<.05, \*\* p<.01, \*\*\*P<.001

This table presents the correlations for all theoretical variables. *Project Success* was significantly correlated with *Top Management Support* (r=.522, p<.000), *Role Ambiguity* (r=.507, p<.000) and *Role Conflict* (r= -.315, p<.000) and in the expected direction. *Top Management Support* was significantly correlated with *Role Ambiguity* (r=.493, p<.000) and *Role Conflict* (r= -.289, p< .000) and in the expected direction. *Role Ambiguity* was significantly correlated with *Role Conflict* (r= -.144, p<.05) and in the expected direction.

Table 03:	Main effect and Moderated Reg	ression Analysis
_		- (

Predictors		Performance	
	В	R <sup>2</sup>	
Step 1			$\triangle \mathbf{R}^2$
Top Management Support	<b>.</b> 257 <b>***</b>		
Role Ambiguity	·394 <b>***</b>		
Role Conflict	114**	.384***	<b>.</b> 384 <b>***</b>
Step 2			
TMS x RA	024		
TMS x RC	.210**	·431 <b>***</b>	.047***
* ~ ~ ~ ** ~ ~ ~ ~ *** ~ ~ ~ ~ ~ ~			

\* p<.05, \*\* p<.01, \*\*\* p<.001

The Table o3represents that to examine the moderating roles of Top Management Support between Role Ambiguity and Project Success, Role Conflict *and Project Success* a moderated regression analysis was performed. In the first step, the variables Top Management Support, Role Ambiguity and Role Conflict were included. These variables accounted for a significant amount of variance in Project Success, ( $\beta = .257$ , p < .000), ( $\beta = .394$ , p < .000), ( $\beta = ..114$ , p < .000), R<sup>2</sup> = .384, F = 46.156. Then, the interaction terms was added to the moderated regression analysis, in which one Top Management Support Moderated between Role Conflict and Project success which accounted for a significant proportion of variance in Project success ,  $\Delta R^2 = .047$ ,  $\Delta F = 9.153$ , ( $\beta = .210$ , p < .001) and the second Interaction term which is Top Management Support Moderated between Role Ambiguity and Project success which accounted for an insignificant proportion of variance in Project success which accounted for an insignificant proportion of variance in Project success which accounted for an insignificant proportion of variance in Project success which accounted for an insignificant proportion of variance in Project success which accounted for an insignificant proportion of variance in Project success which accounted for an insignificant proportion of variance in Project success which accounted for an insignificant proportion of variance in Project success which not support the hypothesis with value of ( $\beta = .024$ , p > .05),

Testing hypothesis on the basis of the regression analysis:

H1. Does role conflict has an impact on the project success?

Hypothesis H1 is supported.

H2. Does role ambiguity has an impact on the project success?

Hypothesis H<sub>2</sub> is supported.

H3. Does top management support has an impact on the project success?

Hypothesis H<sub>3</sub> is supported.

H4. Does top management support moderates the impact of role conflict on project success?

Hypothesis H4 is supported

H5. Does top management support moderates the impact of role ambiguity on project success?

Hypothesis H5 is not supported.

#### **Discussion & Conclusions**

The main objective of the research study was to evaluate the impact of Role Ambiguity and Role Conflict on the Project Success with moderating role of Top Management Support in the Architecture, Engineering and Construction (AEC) industry project within Pakistan. Based on the previous studies and the gap in the literature review, the objective was to resolve the study gap area with focus on how top management support can be used as a tool to enhance the higher project success rate with reducing the impacts of role conflicts and role ambiguities amongst the employees of the projects. The novelty of this research lies in the proposing and indicating recommendations useful and applicable for the improvement of the industry employees working on projects and how overall project success can be enhanced.

Based on the literature review developed for the study, multiple authors have identified that role ambiguities and role conflicts are a major source of project failure, delays, employee stress, poor job performance, poor task performance, reduced employee output, higher turnover rates, etc are inline with the observed results of the study. Amongst the five developed hypothesis, four were supported and one was not supported. Each of these are discussed below:

#### H1. Does Role Conflict Has An Impact On The Project Success?

Based on the in depth analysis of the study results, it was found that role conflict has an impact on the overall project success. However the impact was observed to be a Negative one. As role conflict leads to multiple issues including but not limited to stress in employees, lack to establish the base ground for one task over the other, poor coordination, lack of understanding of the tasks prioritization, stress, anxiety, poor job satisfaction, poor job performance, lacks creativity, poor engagement and unable to perform any of the assigned tasks up to the level of satisfaction. Hence the results observed in the study correlated with the results based in the literature review by (Pandey and Kumar, 1997; Kahn et al., 1964), (Teh et al., 2009). It was also observed amongst the other allied aspects that role conflict was observed to be a source towards identification of hidden or less developed skill set of the employees by engaging them in other coordinated and closely related activities by (Teng & Cheng, 2010), however in the study the phenomena was not observed and hence did not correlated. It was primarily due to the nature of the tasks of the AEC projects that most of the time the employees are under pressure to achieve their targets and deadlines, hence whenever being given an allied task not primarily assigned to the employees, it creates more stress and was a

source of poor coordination and quality. It was challenging for the employees in these time scenarios to cope with the deadline and meet the targeted outcomes.

#### H2. Does Role Ambiguity Has An Impact On The Project Success?

Based on the in depth analysis of the study results, it was found that role ambiguity has an impact on the overall project success. However the impact was observed to be a positive one. This aspect of the study raised concerns as based on the literature review it was observed that role ambiguity has a negative impact on the project success. Based on the literature review, it was observed that role ambiguity exists where a lack of information or lack of knowledge is a source of creating ambiguity amongst the team and project employees. As the data was collected from sample in different locations within Islamabad and Rawalpindi and from the firms and offices which have strict outlines and employees selection criteria with specified job descriptions, predominantly it lead to non existence of role ambiguity amongst the sample. As the sample primarily included Architects, Engineers, Project Managers, Supervisors, Designers, planners, etc. and all of these job roles have defined specific academic and experience qualification criteria set forth already by the organization which have been included in the sample. Hence it can be related that role ambiguity was not prevailing in the sample as most of the employees included in the sample are academically gualified and had experience enough to know the precise work they have to perform and how to deliver their targeted outcome and match their deadlines. As a result, it can be stated on the overall observation of the research study that based on the literature review developed role ambiguity as a variable was not much prevalent in the sample and hence did not correlated with the aspects explored by (Trépanier et al., 2013), (Glissmeyer et al., 2007), (Singh et al., 2012), (De Clercq & Belausteguigoitia, 2017) and (Yongkang et al., 2014) in the developed literature review. As a result of the observation in the study, lack of role ambiguity favors the successful completion of the project and thus relates directly to the project success.

#### H3. Does Top Management Support Has An Impact On The Project Success?

Based on the in depth analysis of the study results, it was found that top management support has an impact on the overall project success. Based on the developed literature review, the impact was observed to be a positive and was also the same in the study. Top management support is associated with multiple aspects and their allied phases of a project. Through out the project life cycle, through initiation till closing, Top management support acts as a guidance and support system to facilitate the smooth flow of the project through inevitable changes and critical issues. Without top management support, any project may face failure due to lack of guidance, prioritization, Higher level of ethical behavior, positive attitude, drop in turnover rates, financial support, technical support, human and non-human resource systems, strategizing the needs of the projects and availability of necessary systems to enable functioning and execution of the project. Hence the results observed in the study correlated with developed literature review of the study exploring the previous works of research by (Shin et al., 2015), (Sperber & Linder, 2018), (Sommer, 2012) and (Viswesvaran et al., 1998). It is evident that top management engagement in any project is directly associated with the project prioritization to ensure that the targeted deliverables can be achieved. Though this

aspect is also related that sometimes un-ethical behaviors are also faced by the employees and project team members due to top management engagement but their lack of engagement creates ambiguity and hence poor employee commitment and engagement is observed. It can thus be stated that top management support is directly related with the project success and hypothesis 3 is supported.

# H4. Does Top Management Support Moderates The Impact Of Role Conflict On Project Success?

Based on the in depth analysis of the study results, it was found that top management support moderates the relationship between role conflict and project success. Based on the developed literature review, the impact was observed to be a positive one with respect to project success. As it has been observed in the literature review and through testing of hypothesis 1, role conflict had a negative and significant impact on the project success. With Top management support added as a moderator, reduces the overall impact of role conflict on the project success significantly. Based on the data collected and its analysis, observational study done and discussed with the employees during data collection, it was observed that the Architecture, Engineering and Construction offices in which top management has a direct influence and interest in the success of the project they are always engaged with the deployment of the human resources for the project along with their selection, training, team development processes, facilitation for the best resources and resolving issues amongst the team members and the employees related to major constraints of scope, cost, schedule and quality in a project. As top management seems to be accepting that fact that their teams and employees are the core strengths on the basis of which they are able to achieve project success, they are always engaged in resolving the conflicts related to their roles and responsibilities while facilitating them and engaging them towards maximum optimization leading to best potential resources to be utilized for specialized project tasks and activities. Hence hypothesis 4 was supported and top management support acts as a major moderator in facilitating employees to achieve the project success through helping them resolving aspects and issues associated with role conflicts. Hence the results observed in the study correlated with developed literature review of the study exploring the previous works of research by (Pandey and Kumar, 1997; Kahn et al., 1964), (Teh et al., 2009), (Shin et al., 2015), performance (Sperber & Linder, 2018), (Sommer, 2012), (Teng & Cheng, 2010) and (Viswesvaran et al., 1998).

# H5. Does Top Management Support Moderates The Impact Of Role Ambiguity On Project Success?

Based on the in depth analysis of the study results, it was found that top management support was unable to moderate the relationship between role ambiguity and project success. Based on the developed literature review, the impact was observed to be a insignificant one with respect to project success. As it has been observed in the literature review and through testing of hypothesis 2, role ambiguity was not prevalent in the sample and hence it was directly related with the hypothesis 5 to be unsupported. Hence role ambiguity impact on project success was not moderated in the observed sample due to non-existence of the role ambiguity amongst the sample itself.

#### **Research Limitations and Future Recommendations**

As the research data was collected from the projects and sites in the vicinity of Islamabad and Rawalpindi, other cities and remote construction sites and office were not explored due to limited scope and time of the research. Though the research was comprehensive, detailed and coherent, yet for the critical and higher rational results the study need to be explored at more diverse locations and sites within the context of Pakistan. It should also opt for larger data set and samples. Another limitation was with the level of understanding of the employees. As research activities on project sites are not frequently done, people were reluctant to share their views and perceptions. Though they were facilitated and briefed by the researcher, yet completion of these forms may have ambiguities.

During the course of this research study, some allied factors have been identified which needs to be explored in the context of AEC industry of Pakistan. These mainly include hygiene factors, employees health and safety at site, trainings & skill set improvements, optimized design of office spaces for energy efficiency, etc.

#### References

- Abbas, A., Din, Z. U., & Farooqui, R. (2016). Integration of BIM in Construction Management Education: An Overview of Pakistani Engineering Universities. *Procedia Engineering*, 145, 151–157. https://doi.org/10.1016/j.proeng.2016.04.034
- Ahsan, M., Shakeel, N., & Baig, F. (2023). Public perceptions of barriers to walk in urban areas of Lahore, Pakistan. *TeMA Journal of Land Use, Mobility and Environment*, 16(1), 105–120. https://doi.org/10.6093/1970-9870/9353
- Alam, S., Haerani, S., Amar, M. Y., & Sudirman, I. (2015). Role conflict and role ambiguity in higher education, 4(1), 1–7.
- Baig, F., Kirytopoulos, K., Lee, J., Tsamilis, E., Mao, R., & Ntzeremes, P. (2022). Changes in People's Mobility Behavior in Greece after the COVID-19 Outbreak. *Sustainability* (*Switzerland*), 14(6). https://doi.org/10.3390/su14063567
- Baig, F., Rana, I. A., & Talpur, M. A. H. (2019). Determining Factors Influencing Residents' Satisfaction Regarding Urban Livability in Pakistan. International Journal of Community Well-Being, 2(2), 91–110. https://doi.org/10.1007/s42413-019-00026-w
- Batool, S., Omer, A., & Bhatti, S. (2024). Unlocking the Metaverse Potential : Evaluation of Public and Private Higher Educational Institutions in Pakistan on adoption to Futuristic Technologies \* Corresponding Author. *Pakistan Languages and Humanities Review*, 8(2).
- Bhatti, O. S., Ghufran, A., Shah, A., & Iqbal, M. A. (2024). Unveiling the potential of Epidemic-Resilient Architecture through cultural integration & responsiveness for developing countries: A Virtual Reality Exploration in Pakistan with focus on enduser participation in healthcare. *Remittances Review*, 09(No. 1), 2277–2304.
- Bhatti, O. S., & Huma, A. (2023). Potential Usefulness of Video Lectures as a Tool in Improving the Online Learning at the Post Graduate Level: A Case for Design Domain Students. International Journal of Distance Education and E-Learning, VIII(II), 1–8.
- Bhatti, O. S., Hussain, K., & Iqbal, M. A. I. (2025). Beyond Accessibility: Rethinking Inclusive Built Environment Design In Lahore 's Public Parks For Special Persons.

COMPETITIVE RESEARCH JOURNAL ARCHIVE, 3(01), 283–295.

- Bhatti, O. S., & Iftakhar, N. (2023). SUSTAINABLE BUILT ENVIRONMENTAL DESIGN OPTIMIZATION. Journal of ISOSS, 9(1), 163–182.
- Bhatti, O. S., Mujahid, A. S., Nuaman, E., & Mughal, I. (2024). Unveiling Climate Consciousness: Assessing Perceptions based on Social Media and Mass Communication Strategies among Balochistan University Students. Journal of Development and Social Sciences, 5(2).
- Bryde, D. J. (2003). Modelling project management performance. International Journal of Quality & Reliability Management, 20(2), 229–254. https://doi.org/10.1108/02656710310456635
- De Clercq, D., & Belausteguigoitia, I. (2017). Reducing the harmful effect of role ambiguity on turnover intentions: The roles of innovation propensity, goodwill trust, and procedural justice. *Personnel Review*, 46(6), 1046–1069. https://doi.org/10.1108/PR-08-2015-0221
- Elloy, D. F., & Smith, C. R. (2003). Patterns of stress, work-family conflict, role ambiguity and overload among dual career and single-career couples: an Australian study. *Cross Cultural Management: An International Journal*, 10(1), 55–66. Retrieved from http://www.emeraldinsight.com/journals.htm?issn=1352-7606&volume=10&issue=1&articleid=882981
- Gardezi, S. S., Manarvi, I. A., & Gardezi, S. J. S. (2014). Time extension factors in construction industry of Pakistan. *Procedia Engineering*, 77, 196–204. https://doi.org/10.1016/j.proeng.2014.07.022
- Glissmeyer, M., Bishop, J. W., & Fass, R. D. (2007). Role conflict, role ambiguity, and intention to quit the organization: the case of law enforcement officers. 38th Southwest Decision Sciences Institute Annual Conference, 458–469.
- Gul, J. A. K., Sharif, I., Bhatti, O. S., Salahuddin, S., & Ijaz, W. (2025). The Competence Of The Administration Department To Manage Human Resources In The Public Sector. *THE JOURNAL OF RESEARCH REVIEW*, 2(1), 229–242.
- Hanisch, B., Lindner, F., Mueller, A., & Wald, A. (2009). Knowledge management in project environments. *Journal of Knowledge Management*, 13(4), 148–160. https://doi.org/10.1108/13673270910971897
- Heravi, G., & Ilbeigi, M. (2012). Development of a comprehensive model for construction project success evaluation by contractors. Engineering, Construction and Architectural Management, 19(5), 526–542. https://doi.org/10.1108/09699981211259603
- Khan, F., Shujat, O., Mujahid, S., Muhammad, H., & Nadeem, A. (2024). International Journal of Social Science Archives Sustainable Building Envelopes : A Solution for Energy Crisis in Buildings, 7(2), 594–602.
- Koustelios, A., Theodorakis, N., & Goulimaris, D. (2004). Role ambiguity, role conflict and job satisfaction among physical education teachers in Greece. *International Journal of Educational Management*, 18(2), 87–92. https://doi.org/10.1108/09513540410522216
- Lam, E. W. M., Chan, A. P. C., & Chan, D. W. M. (2007). Benchmarking the performance of design-build projects: Development of project success index. *Benchmarking*, 14(5), 624–638. https://doi.org/10.1108/14635770710819290

- PMI. (2013). A Guide to the Project Management Body of Knowledge. Project Management Institute (Vol. 5). https://doi.org/10.1002/pmj.20125
- Rehman Khan, S. U., Long, C. S., & Javed Iqbal, S. M. (2014). Top management support, a potential moderator between project leadership and project success: A theoretical framework. *Research Journal of Applied Sciences, Engineering and Technology*, 8(11), 1373–1376. https://doi.org/10.19026/rjaset.8.1109
- Rolstadås, A., Tommelein, I., Morten Schiefloe, P., & Ballard, G. (2014). Understanding project success through analysis of project management approach. International Journal of Managing Projects in Business, 7(4), 638–660. https://doi.org/10.1108/IJMPB-09-2013-0048
- Shah, F. H., Bhatti, O. S., & Ahmed, S. (2023a). A Review of the Effects of Project Management Practices on Cost Overrun in Construction Projects †. Engineering Proceedings, 44(1), 1–5. https://doi.org/10.3390/engproc2023044001
- Shah, F. H., Bhatti, O. S., & Ahmed, S. (2023b). Project Management Practices in Construction Projects and Their Roles in Achieving Sustainability—A Comprehensive Review †. Engineering Proceedings, 44(1), 1–5. https://doi.org/10.3390/engproc2023044002
- Shin, Y., Sung, S. Y., Choi, J. N., & Kim, M. S. (2015). Top Management Ethical Leadership and Firm Performance: Mediating Role of Ethical and Procedural Justice Climate. *Journal of Business Ethics*, 129(1), 43–57. https://doi.org/10.1007/s10551-014-2144-5
- Siegall, M. (2006). Putting the stress back into role stress : improving the measurement of role conflict and role ambiguity.
- Sommer, A. (2012). Managing Green Business Model Transformations A Framework for Management Practice, 259–346. https://doi.org/10.1007/978-3-642-28848-7\_9
- Sperber, S., & Linder, C. (2018). The impact of top management teams on firm innovativeness: a configurational analysis of demographic characteristics, leadership style and team power distribution. Review of Managerial Science, 12(1), 285–316. https://doi.org/10.1007/s11846-016-0222-z
- TALPUR, M. A. H., CHANDIO, I. A., BAIG, F., SHAIKH, F. A., & NAPIAH, M. (2017). Energy Crisis and Household's Perception about Solar Energy Acceptance: District Hyderabad, Pakistan. Sindh University Research Journal -Science Series, 49(003), 601--604. https://doi.org/10.26692/surj/2017.09.23
- Teh, P., Yong, C., Arumugam, V., & Ooi, K. (2009). Does total quality management reduce employees' role conflict? *Industrial Management & Data Systems*, 109(8), 1118–1136. https://doi.org/10.1108/02635570910991337
- Title: Role ambiguity and role conflict amongst university academic and administrative staff: a Nigerian case study Name: Mandy Jollie Bako. (n.d.).
- Turner, J. R., & Xue, Y. (2018). On the success of megaprojects. International Journal of Managing Projects in Business, 11(3), 783–805. https://doi.org/10.1108/IJMPB-06-2017-0062
- Viswesvaran, C., Deshpande, S. ., & Joseph, J. (1998). Job satisfaction as a function of top management support for ethical behavior: A study of Indian managers. *Journal OfBusiness Ethics*, 17(4), 365–371.
- Yongkang, Z., Weixi, Z., Yalin, H., Yipeng, X., & Liu, T. (2014). The Relationship among Role

Conflict, Role Ambiguity, Role Overload and Job Stress of Chinese Middle-Level Cadres. *Chinese Studies*, 03(01), 8–11. https://doi.org/10.4236/chnstd.2014.31003