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Factual Success and Thriving Performance Required; Top Management and Project Manager Strong Coordination During Project Life Cycle

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Abstract: The purpose of this paper is to identify the role of top management (moderator) during planning, monitoring, controlling and evaluation phases. This paper also discusses the novelties of the coordination between role of top management and legitimate power of project manager has significant impact on project performance and success during project life cycle phases. This influence extends the theory of Personal Factor, Power theory, Project life cycle theory and enhances the role of project manager with coordination of top management. The instrument was adopted to measure the acquaintance of planning, monitoring, controlling, evaluation, role of project manager, project performance, project success and role of top management. Managers were targeted for data collection from construction sector, education sector and IT sector for analysis. After applying Bivariate (Pearson) Correlation and OLS regression it is concluded that there is positive relationship between planning, monitoring, controlling, evaluation and project manager. First homoscedasticity & multicollenarity were checked to run the moderation test. Top management has shown positive moderating effect on project performance and project success in all the phases except for the monitoring phase in project performance only. The findings of coordination between variables also show that project manager works like a bridge between top management and other team members in four phases of project life cycle (planning, monitoring, controlling and evaluation) for ultimate success. This study has significant advantage for the organization and industries before implementing any project. This will be helpful for the top management to give authority and responsibility to the project managers while considering the scope of the project. For academia this study helps to enhance the knowledge area of project management by introducing of coordination management while discussing the other knowledge areas of project management.

Keywords: Project planning, Project monitoring, Project controlling, Project evaluation, Role of project manager, Role of top management, Project performance, Project success

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INTRODUCTION

Project management is splendidly shining on the face of globe and appended to itself in all fields of life by becoming a prestigious topic for business, public institutions, science and management (Bannerman, 2008; Morris, Jamieson, & Shepherd, 2006; Wastian, 2015). It not only tells the feasibility of project practically but also states the scope of the project (Archibald, Di Filippo, & Di Filippo, 2012). This study extended the research of project life cycle theory (Archibald et al., 2012; Wideman, 2004) by introducing the evaluation in the execution phase (monitoring & controlling). Side by side evaluation by the project manager and taking instant actions, facilitated to run the project better. During evaluation, he reports to the top management for better decisions. Evaluation, already a common term in project management is to assess the project's dimension at the end. But, in this study it works with monitoring and controlling in execution phase. Project manager has been neglected in the process of performance evaluation (Wastian, 2015). Firstly in this study, role of project manager has been shown in evaluation during monitoring and controlling. Secondly this study showed the significant impact of personal factor (Belout & Gauvreau, 2004; Jeffrey & Dennis, 1984) in the domain of planning, monitoring and controlling of project life cycle with integrating skill and knowledge of these phases. In Solga, Witzki, and Blickle (2015) described political behavior helps project manager to behave skillfully and competently based on their power to achieve the goals for performing tasks. Hence, Project manager has responsibility to achieve tasks as personal factor in project life cycle phases. The data of this study showed the

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moderation without multicollenarity but in 2004 this multicollenarity existed in Belout and Gauvreau (2004) study. Thirdly, this study showed the impact of power over organization. As Clegg, Courpasson, and Phillips (2006) stated "power is to organization as oxygen is to breathing". Coercion, manipulation, subjectification and domination are the main forces of power with their four sites in, over, through and against (Fleming & Spicer, 2014). Fourthly, this study extended that the role of top management has positive impact on project performance and success as moderator Top management has a power to influence on the development of team, gives formal power to leader and controls them. Project manager needs support from top management for some actions and decisions. He/She becomes helpless especially in large organization without the support of top management for high decisions for big issues.

LITERATURE REVIEW

Success is a word that has different meanings for different individuals at one time within a project (Davis, 2014; Koelmans, 2004; Leung, 2020; Morris et al., 2006; Williams, Ashill, Naumann, & Jackson, 2015). The ultimate goal of project management is to earn success (Munns & Bjeirmi, 1996). After the "sign off", the delivery of project is important to the customers within the ironic triangle (cost, time, quality) (Dvir, Raz, & Shenhar, 2003; Jeffrey & Dennis, 1984). The project manager is an important variable and has leading role over project success and personal factor which is not included as an independent variable in this theory (Belout & Gauvreau, 2004). Project Manager has a power of doing work within the processes & procedures of the organization (Lovell, 1993). Project manager is responsible to keep the client in touch during execution of the project and establish the good relation with them for future (Williams et al., 2015; Wartika, Surendro, Satramihardja, & Supriana, 2015). Project manager can obtain project success with the help of Work Break Down structure (WBS) and good evaluation (Koelmans, 2004). There is strong relationship between team members, planning, controlling and project success (Thomas, Jacques, Adams, & Kihneman-Wooten, 2008). Project manager gives direction and clarification for any confusion to team members. He/She controls the project and completes it according to the plan (Thomas et al., 2008). Proper Planning, estimation, teams' skill, leadership, involvement of the user are the main characteristics of the project success (Attarzadeh & Ow, 2008). Top management has a strong impact on project success (Shokri-Ghasabeh & Kavoousi-Chabok, 2009). "User involvement", "good planning & estimation", "good leadership & team member's technical skills" are the three main important factors for project success (Attarzadeh & Ow, 2008). Top management not only supports the projects but also influences the implementation of project of their success or failure (Jeffrey & Dennis, 1984). There is a need of proper role of top management for the project performance (Kaynak, 2003). IT cortex consultants and American Management Association points out that "insufficient authority given to the project managers" is main problem with others issues in the project i.e., (Kuen & Zailani, 2007). Organizational structure also influence on project success (Jeffrey & Dennis, 1984; Petro & Gardiner, 2015). For the portfolio success, Project manager has a great impact on success of any organizational structure. His/her involvement in steering committee as moderator also effect portfolio success (Petro & Gardiner, 2015). The project efficiency, business success, customer satisfaction & future preparation are the main dimensions for the project success (Bannerman, 2008; Dvir et al., 2003; Piyachat, 2017). Project managers attach with the organization's strategy & goals of the organization for long term. The goals of the project should be defined at the first stage of the project by the top management. "Process", "Project Management", "Product", "Business" and "strategic" are the multilevel framework for the success of the project (Bannerman, 2008). Gu, Hoffman, Cao, and Schniederjans (2014) that "institutional collectivism", "results orientation", "positive work environment", "leadership risk tolerance" are the four dimensions of organizational culture. The project performance and project success is different for short projects and for long projects (Zwikael & Unger-Aviram, 2010). There is need of more research in project management about the top management (Davis, 2014). Top management also adds more information to our understanding and supports in the New Product Development (NPD) (Bonner, Ruekert, & Walker Jr, 2002). Portfolio management distributes the authorities to the managers for running the projects. They also decided about the selection of new managers. "Power re-Distribution" also effects the success in portfolio management (Jonas, 2010). There was comprehensive study on different authorities as the

main stakeholders of the project management (Davis, 2014). Top management also mediates the effect on mimetic pressure, coercive pressure and normative pressure during institutional burdens. There is positive relationship between institutional pressures and IT assimilation as mediator of top management. Institutional pressure is important to adopt the IT implementation, contribute post implementation adaptation, prolonged process, dynamic outcomes and uncertain situation (Liang, Saraf, Hu, & Xue, 2007). After the rich study it is proved that planning, monitoring, controlling and evaluation are important phases of project life cycle (Jeffrey & Dennis, 1984) and involvement of human factor is managerial and have significant importance on project performance and success (Belout & Gauvreau, 2004). Virtuous square which added customer satisfaction in ironic triangle (cost, time, quality) is also main ingredients of project management (Williams et al., 2015). But for the management of different stakeholders (Davis, 2014) a proper responsible and authorized leadership is needed. So this study contributes the role of top management (moderator) during planning, monitoring, controlling and evaluation phase. It also contributes the coordination between the role of top management and project manager during the phases of project life cycle.

THEORETICAL FRAME WORK AND HYPOTHESIS

Project life cycle is a basic constituent of project management for having knowledge and skill in each domain. "The life cycle is the only thing that uniquely distinguishes projects from non-projects" stated by Patel and Morris (1999). It is the backbone of project management and help in getting project success step by step (Jeffrey & Dennis, 1984). In the same study Jeffrey and Dennis (1984) also proved that there is least impact of personal factor on project success. But Belout and Gauvreau (2004) proved that personal factor strongly influences project success with moderator effect of project structure. So the factor of organizational structure has positive impact on project success (Belout & Gauvreau, 2004; Jeffrey & Dennis, 1984; Petro & Gardiner, 2015).

There is not robust relationship between the project management process, procedures and project success but these are highly correlated with technical specifications and requirements (Ruiz-Martin & Poza, 2015). Project planning is a critical and challenging phase of project management in which manager has to put more efforts to combine all the interdependency activities (Ruiz-Martin & Poza, 2015).

It was analyzed that there was a little study on top management, owners, directors of organization and their impact on project success is also least covered (Davis, 2014). Project performance and project success not only depends upon central role of project manager as a personal factor but he/she also needs the involvement of top management for timely resolve of the issues during the process of completing the project.

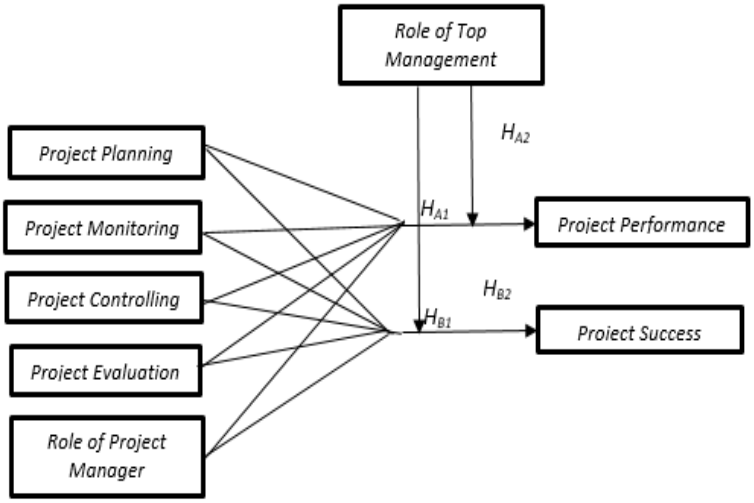

Figure 1. Theoretical model

Figure 1 showed the model, the association between four phases, project manager and top management.
HA1: Planning, Monitoring, Controlling, Evaluation and Project Manager effects the Project Performance.
HA2: Top Management moderately effects the project performance in planning, monitoring, controlling and evaluating with the coordination of project manager.
HB1: Planning, Monitoring, Controlling, Evaluation and Project Manager effects the Project success.
HB2: Top Management moderately effects the project success in planning, monitoring, controlling and evaluating with the coordination of project manager.

Impact of planning on project performance and project success with the moderator role of top management

There is a productive liaison between planning and project success (Jeffrey & Dennis, 1984). Practices of project management, related requirements and technical specification are the three main aspects of project planning which leads the project successfully (Dvir et al., 2003).

Proper planning is the process of proper thinking (Mintzberg, 1984). So it is a decision making procedure which gives the WH answers i.e., What, How, When and Who. When the activities will be done at what time and what cost? Who is going to conduct? (Laufer & Tucker, 1987). Planning is the most critical and well-known stage of project management. Before execution of the projects all the activities are planned and decided (Srivastava, Kambhampati, & Do, 2001). Without proper planning software development might not process properly (Wu & Simmons, 2000). Dvir et al. (2003) proved that there is a momentous association between project planning and project success (Shatat, 2015). Enterprise Resource Planning provides access to the project manager in execution of the project according to the plan.

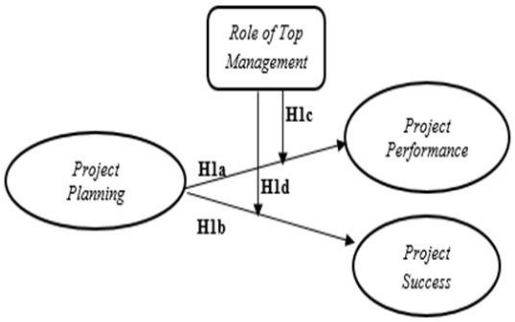

Figure 2. Conceptual framework

H1a: Planning positively effects the project performance contained by ironic triangle.
H1b: Planning is positively effects the project success contained by ironic triangle.
H1c: Top management moderates the effects between planning and project performance.
H1d: Top management moderates the effects between planning and project success.

Impact of monitoring on project performance and project success with the moderator role of top management

"The role of monitoring and shirking in information systems Project Management" published in 2010 at USA. The emphasis of this study is to describe monitoring to check the performance of team members and its effect on project success (Mahaney & Lederer, 2010). "Effect of Project Cost and Time Monitoring on Progress of Construction Project" written by Raut, Pimplikar and Sawant emphasizes that in the construction sector cost and time management is assumed to be that monitoring is more important for significant success. Ansah and Bamfo-Agyei (2012) emphasize on the usefulness of monitoring and controlling project management especially in construction project. An effective project performance control cannot be achieved only by monitoring the cost and time for actual and planned values but other issues should also be monitored. In Abeid, Allouche, Arditi, and Hayman (2003) explained the

execution of a programmed real-time monitoring system for construction projects. TOP Management is also benefited by this system (Cheung, Suen, & Cheung, 2004). Project monitoring and evaluation has significant impact on project performance and project success proved by (Mahaney & Lederer, 2010).

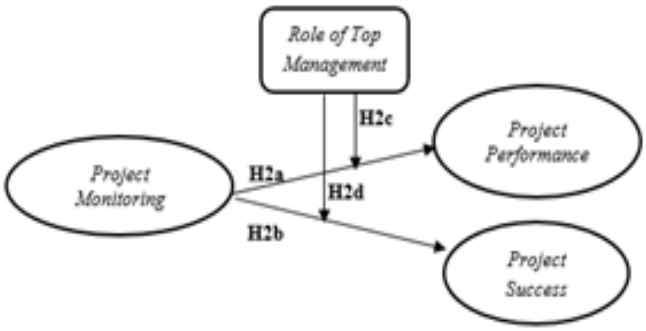

Figure 3. Impact of project monitoring

H2a: Project monitoring has positive impact on project performance.
H2b: Project monitoring has positive impact on project success.
H2c: Top management moderates the effect of monitoring on project performance.
H2d: Top management moderates the effect of monitoring on project success.

Impact of controlling on project performance and project success with the moderator role of top management

There was a study conducted in Packendorff (1995) in which he identified that project organization and follow up plan are the two areas that need project control.

Project Controlling measures progress towards objective, monitor's deviation from the plan, corrective action to match progress, check the objectives to be met and the active participation of project manager. The top management has specific control over uncertainties and develops new strategies for organization Top management brings new ideas for the organization as they understand the market strategy, process the new ideas and action plans to be taken. "The Effectiveness of Conflict is retained over the Long-Run", "Top Management Teams Members Share Consensus on Group and Organizational Goals", "Top Management Teams Members use Only Constructive Conflict", "There is No Gender and Conflict Interaction Effect" are the four assumptions which were used by Thompson and Snyder (1997) in his top management team conflict study. A study was conducted by Bonner et al. (2002), Ruekert and Walker in which they proved that there is a great stimulus by top management on project performance while adopting a new product or to follow the formal process for producing the product. Controlling is main aspect of management process that has a bird eye view on individuals get the organization's aim. "Behavioral", "Outcome" as formal modes and "clan", "self" as informal modes are two classifications of control (Kirsch, 1997). It is difficult for the top management to look after the system for overall activities. But some factors are highly effected by the active response of the top management (Lederer & Mendelow, 1988). Top down and bottom up control approaches are used to control the activities for good performance (Colin & Vanhoucke, 2015). There are many controlling techniques used in Colin and Vanhoucke (2015) study for project cost control on theoretical basis like Earned Value Analysis (EVA) with its three-D method.

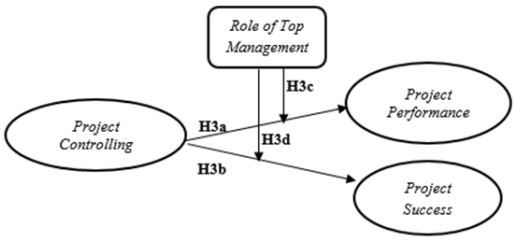

Figure 4. Impact of project controlling

H3a: Project controlling has a positive impact over project performance.
H3b: Project controlling has a positive impact over project performance project success.
H3c: Top management moderates the effect between controlling and project performance.
H3d: Top management moderates the effect between controlling and project success.

Impact of evaluation on project performance and project success with the moderator role of top management

The ultimate goal of project management is to achieve the target with positive evaluation (Morris et al., 2006). Evaluation is a term that justifies the whole project in a single snap shot either the project is completed within all good perspective or failures "Efficiency", "Effectiveness", "Sustainability", "Impact" and "Relevance" are the five dimensions with the "Strategic level", "Tactical level", and "Operational level" that showed the holistic view for the structure of the project evaluation (Zidane, Johansen, & Ekambaram, 2015). IT evaluation is considered to be the best management practice of construction SMEs. IT evaluation gives a strong base to implement the proper IT investment (Love & Irani, 2004). The evaluation concludes the contributory association between project process, outcome and impact. It is foreseen that the CSFs that affect megaproject outcomes and impacts will vary between sectors and industries (Fahri, Biesenthal, Pollack, & Sankaran, 2015). Evaluating information systems, a grading of system objectives needs to be measured that identifies the multidimensional nature of the systems effectiveness. Evaluation is an essential phase to check oneself and the current performance of the project or organization commitment. But in this current study the concept of evaluation is to check the project performance side by side with the planning and to understand the flaws for inefficient progress of the project and correction according to the plan. Project manager evaluates the project periodically to check the performance and consult to the top management for improving the process of completion of the project. Figure 5 shows the impact of evaluation on project performance and project success. This evaluation doesn't measure the project success at the end of the project but it keeps on evaluating the success side by side during the execution of the project. This evaluation helps the manager to understand the flaws and issues related to team members, cost, time and quality. The time spam of evaluation depends upon the nature of project whether it is a shorter long term project. It also guides when the evaluation should be conducted, either weekly or monthly. The top management is also influenced by the evaluation.

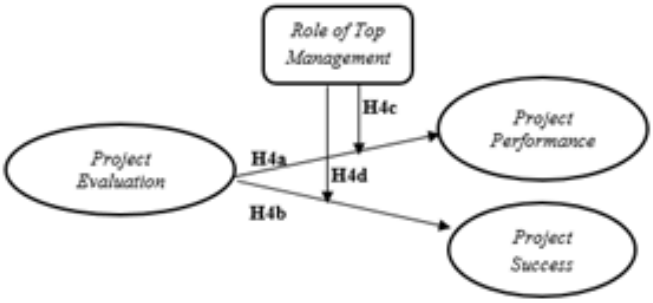

Figure 5. Impact of project evaluation

H4a: Evaluation has a positive impact on project performance.
H4b: Evaluation has a positive impact on project success.
H4c: Top Management moderates the effect of evaluation on project performance.
H4d: Top Management moderates the effect of evaluation on project success.

Impact of project manager on project performance and project success with the moderator role of top management

In Lovell (1993) describes that the project manager achieve success by using his/her power and political strategies and relationships with project stakeholders. According to Lovell (1993) Project managers use their power to deal "upward", "sideways", "downwards" situations. In Parkin (1996) described ActorNetwork theory which involves the steps from problem definition, negotiation and control of the activities by the manager. Actor Network theory helps to take decision in more modified and enhanced way rather than personal decision making process which showed by Parkin (1996). Turner and Muller (2005) suggested 4 styles for project manager. These are "Laissez-Faire", "Democratic", "Autocratic" and "Bureaucratic". There is a Path-Goal Theory which is contingency theory present the idea that a leader must help the team to find or track the path which leads them towards the achievements of their goal. Project information system helps the project manager in achieving their managerial tasks for better planning, monitoring and controlling (Raymond & Bergeron, 2008). The nature of a Project Manager Job is complex and now days every organization demands an excellent and competent project manager (Karlsen & Gottschalk, 2006). Competency of manager also means that how he/she behaves with the team members and the subordinates either positively or negatively specially in construction sector (Sommerville, Craig, & Hendry, 2010).

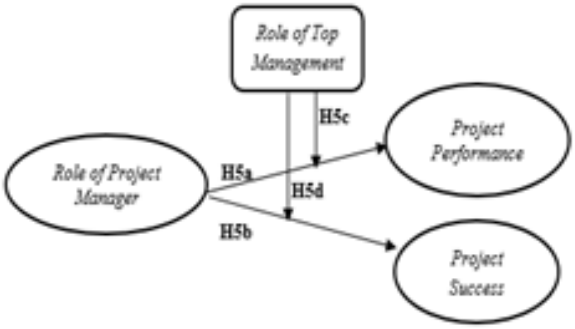

Figure 6. Impact of role of project manager

H5a: Leading role of project manager effects the project performance.
H5b: Leading role of project manager effects the project performance.
H5c: Top Management moderates the relationship between the project manager and project performance.
H5d: Top Management moderates the relationship between the project manager and project success.

Coordination between project manager and Top management during planning, monitoring, controlling and evaluation

Figure 7 shows the responsibility of a project manager in the project. To avail the project success factors, project manager needs the top management's support. Sponsor or owner is the only common project success factor between top management and project manager (Davis, 2014). In Barraza, Back, and Mata (2000), Back and Mata introduced the SS curve for monitoring. Top management as it is defined by an organizational chart, researchers should realize that "some players without titles may have a role in the team, and others with titles may be marginalized". Figure 8 shows the authority of top management. Top management using its authority is responsible of the employee's satisfaction while selecting them, deciding about team's bonus after submitting the progress report by the project manager.

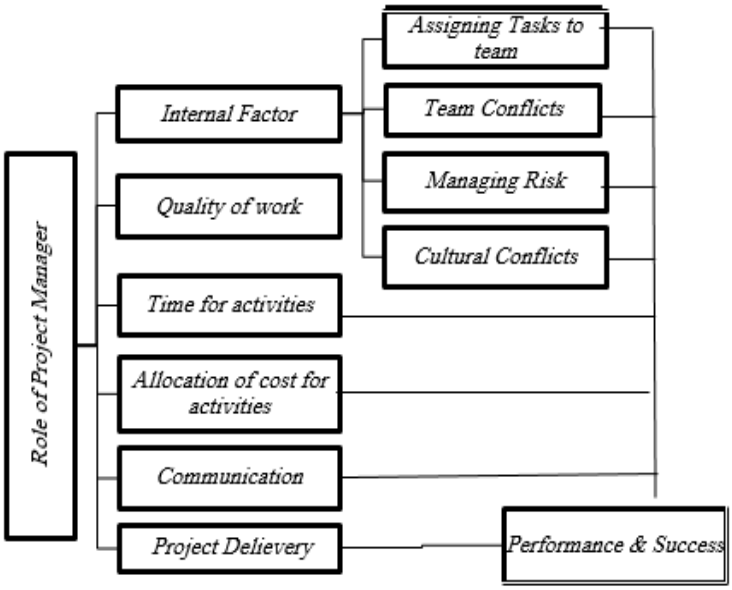

Figure 7. Role of project manager

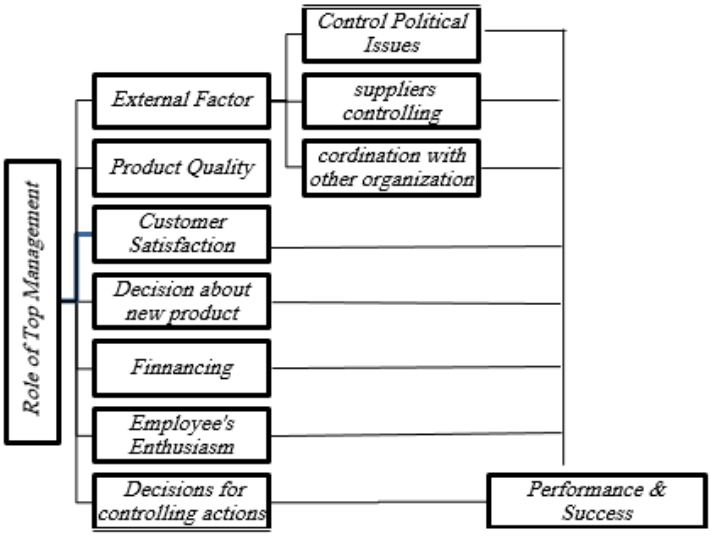

Figure 8. Role of top management

Project manager is a resource person for procuring the IT equipment (Karlsen & Gottschalk, 2006). The Top management needs IT infrastructure for new products, so there are challenges faced by the top management for the procurement of IT sourcing (Durmuşoğlu, 2009). High coercive pressures lead to higher levels of participation by the top management (Liang et al., 2007). According to Yoo and Reed (2015) board members are responsible to give guidelines to the manager and to monitor and control. Top managers also have social life and their existence in social world effect the performance of the firm. They adopt the different tactics from others and effect the firms routine (Geletkanycz & Boyd, 2011). Yes it is true that time, cost and quality are the main ingredients for project success but this juggling needs project manager. So Figure 8 shows the different path between the variables (planning, monitoring, controlling, evaluation, project manager, top management, performance and success) and their impact on each other. Each and every node works separately in its own junction. Ultimately this path ends in project success. The path 'A' is connecting project planning with project manager. This path presents that the participation of project manager adds more strength to strategies of planning. Planning contains strong knowledge and skill in its domain in project management for project success (Dvir et al., 2003).

But there is a proper need of managerial factor (Belout & Gauvreau, 2004) for the project success of the planning.

Ha: The role of project manager is positively influenced by project planning.

The path 'B' is connecting project manager with project monitoring. The project manager has a power in the organization to influence the project performance and project success (Lovell, 1993; Petro & Gardiner, 2015). The knowledge and skill of monitoring domain (Mahaney & Lederer, 2010) helps the project manager in monitoring and checking the status of project. Similarly project manager gives strength to monitoring strategies.

Hb: Proper monitoring effects the role of project manager.

Path 'C' is connecting project manager with project evaluation and path 'D' is connecting top management with Evaluation. Project Evaluation gives guide lines to project manager and also keeps him/her informed about the status of the project. This evaluation by the manager should be done side by side and periodically during the ongoing project. This helps in project life cycle during execution phase when the project manager is monitoring and the top management is controlling. The purpose of this study is that evaluation should not be one of the ending phases of the project but should also help both project manager and top management during the execution phase of the project management. This concept helps both project manager and top management for in taking decisions and to instantly response in favour of the project to complete it within ironic triangle.

Hc: Side by side evaluation has positively effects the role of project manager.

Hd: Project evaluation has positively effect role top management.

Path 'E' is connecting project planning with project manager. Responsibility of project manager and strategies of monitoring when combined influence the project performance. It enhances the project performance with the help of process and procedures of monitoring and knowledge of project manager (Karlsen & Gottschalk, 2006). The project manager monitors the activities according to the project planning. This leads to accomplish the tasks within ironic triangle (cost, time, quality).

He: Efforts of Project manager and monitoring has positive effects on project performance.

Path 'F' is connecting project controlling with role of top management and path 'G' is connecting top management, controlling with Project success. Top management has power and authority run to organize the activities for the betterment of the organization (Fleming & Spicer, 2014; Solga et al., 2015). The power of top management yields the project towards project success. External factors can easily be controlled by the top management. These factors are either political or any legal documentations or any hiring the staff from other organization or costly equipment or machinery for temporary use are easily controllable. They also use their links to fulfill all the requirements. This may lead to reduction in cost and time to produce better quality.

Hf: The role of Top Management has significantly impact over project controlling.

Hg: Top Management and controlling combine has positively effects the project success.

Path 'H' is connecting project planning with project manager Good Performance has a strong relationship with project success. Project performance is a continuous effort for getting a project success. Performance is a combination of all efforts to get a distinct word that is project success. Delay or over budget and incompetent employees are the main issues during performance that hinders the project success. So the noble performance leads the project success from better to best.

Hh: Good performance yields the project success.

METHODOLOGY

The instrument adopted measures the project performance and project success during monitoring, planning, controlling and evaluation with the involvement of project manager & moderating role of top management. Likert scale was adopted to measure the responses of variables. The items of the planning instrument are end user needs & its relationship with management, about the acceptance standards & operational effectiveness criteria, system specification & human engineering, specification for reliability, specification for coexistence, specification for technical requirements, specification for stages of production, well defined logistics support & life cycle of cost & schedule, proper planning for resource items related

to 10 areas of knowledge, team management and reporting are the main items of the instrument. So in this study instrument was adopted with above mention items to measure the effect of planning on project success with combined effort of top management and project manager (Dvir et al., 2003). To check the performance of the project instrument is adopted for controlling the events, for new product or control the formal process. The items of the instrument are Specified process & procedure by the top management for team members, work assignment for the team members, setting of objectives, quality management, product performance, goals of the project, budget for the team members & strategy for the product and selection of team members related to top management and project control. The instrument for project performance has the items of meeting schedule, product performance, team performance, follow the time & budget. So the instrument was adopted to check the influence of independent variable (control), moderating variable (top management) and dependent variable (performance) (Bonner et al., 2002). Critical path method & GANTT chart, progress posting for internal reviews, periodic auditing, periodic comparison of actual cost, time, result of planned cost, time & result, team meetings, reporting & testing modules by the manager are the items of monitoring instrument. The instrument of Evaluation involves original schedule, cost and quality. So the instrument was selected to check the influence of independent variable (monitoring and evaluation) on project performance & success with role of project manager & role of top management (Mahaney & Lederer, 2010). Follow the project schedule, technical requirements, specification and satisfaction of clients, culture or values of the organization, challenges of project team, identification of technical problems & resolved manufacturing of the product are used as items of the instrument of project success. So the above mentioned items were selected in instrument of project success. This instrument is used to check the influence of independent variables (planning, monitoring, controlling, evaluation and role of project manager) and dependent variable (project success) by the involvement of role of top management (moderator) (Belout & Gauvreau, 2004). Authority to achieve goals, decision about rewards, bonus & promotion for team, authority of technical matters with significant role and assessing the project team are the main items to measure the impact of the role of project manager (independent variable) on dependent variables (performance & success) with moderator variable (top management) (Petro & Gardiner, 2015). Project performance & project success also depends upon the controlled variables. Education, age, sector, experience plays an important role in leading the project proficiently and successfully.

Sampling techniques

Project manager, top management, middle managers, supervisors & concerned team members are targeted population for this study. This is based on stratified random sampling (Sekaran & Bougie, 2003). Data is collected from construction sector, IT sector and Education sector. 750 people were approached for the data collection out of 3000 Population. This is based on convenience data technique.

Data collection strategy

183 responses were selected with all completed information. The survey was conducted in two steps; firstly the data was collected through questionnaire from the concerned team members, top level management and the project managers. Secondly web based data was collected by getting the questionnaire filled in by managers as respondents.

Data analysis techniques

Data was analyzed using SPSS 21 software. Finalized questioners were entered in the SPSS 21. Spearmans correlation is used to check the relationship between independent variables and dependent variables. OLS is used to check the relationship.

RESULTS & DISCUSSION

Respondent's data

Data came from IT, Education and Construction sector of 183 respondents with demographic variables i.e., Sex, Education, Designation, PM certification, Organization, Age and Experience.

Table 1: Respondents data

Demographic Variables	Categories	Responses	Response Rate (Percent)	Mean	*SD*
Gender	Male	136	26	.74	.438
	Female	47	74%		
Education	Bachelors	17	9.2%		
	Master	101	54.9%	2.29	.679
	M-Phil	59	32.1%		
	PhD	06	3.3%		
Designation	Manager	24	13%		
	Middle Manager	57	31%	3.18	1.511
	Supervisor	28	15%		
	Director	09	05%		
	Project Manager	65	35%		
PM Certification	No	114	62%	0.378	0.486
	Yes	69	38%		
Organization	IT Sector	29	15.8%	2.535	1.170
	Construction	52	28%		
	Education	45	24.5%		
	Others	57	31%		
Age	25-35 Years	83	45%	1.57	.548
	36-45 Years	95	51.6%		
	46-55 Years	05	2.7%		
Experience	$<$ 5 Years	81	44%	1.75	.883
	6 10 Years	79	43%		
	11 15 Years	15	08%		
	16-20 Years	03	1.6%		
	$>$ 20 Years	05	2.7%		
Total	183				

Reliability of variables

Table 2 showed the reliabilities of all the variables. This study adopted the Likert scale. Cronbach Alpha Coefficient use to measure the internal consistency.

Table 2: Reliability of variables

Variables	Number of Items	Cronbach's Alpha
Planning	14	0.68
Monitoring	14	0.86
Controlling	11	0.64
Evaluation	04	0.79
Top Management	04	0.69
Project Manager	04	0.83
Performance	04	0.74
Project Success	09	0.69

Table 3: Correlation between variables

Variables	Planning	Monitoring	Controlling	Evaluation	Project Manager	Top Management	Performance	Success
Planning	1							
Monitoring	.674**	1						
Controlling	.821**	.732**	1					
Evaluation	.749**	.720**	.500**	1				
Project Manager	.757**	.575**	.405**	.935**	1			
Top Management	.428**	.464**	.361**	.583**	.583**	1		
Performance	.698**	.824**	.611**	.917**	.809**	.592**	1	
Success	.422**	.424**	.353*	.623**	.584**	.601**	.635**	1

Significance at p< 0.001

Main model description

Table 4 showed the impact of planning, monitoring, controlling, evaluation and project manager on performance and project success with the moderator (role of top management). The result showed the values of $R = 0.956$ and F (5,177) = 373.618 significance at $p < 0.00$. So, HA1 accepted that performance is strongly influenced by monitoring, controlling, planning, evaluation and project manager.

Table 4: Independent variables and its impact on project performance and success (main model)

	Performance			Sig.	Success			Sig.
	R	R^2 Change	F	P	R	R^2 Change	F	P
Independent Variables	0.959	—	406.902	000	0.680	—-	30.435	.000
Ind. Variables, Top Management	0.959	—	338.120	.000	0.717	——	31.114	.000
Ind. Variables, Top Management, Moderator	0.965	0.011	209.204	.000	0.809	0.140	29.480	.000

Significance at $p < 0.001$, $p < 0.005$

HA2 accepted the values of $R = 0.965$ and F (5,177) = 209.204 significance at $p < .001$ showed that all independent variables have significant impact with moderator variable on performance. Before applying the moderation effect some checks are important to check the suitability of data for moderating variable. Firstly measurement of dependent variables on continuous scale, second needs linear relationship between the variables, thirdly, data should be homoscedasticity between the variables. In homoscedasticity variance error should be same for all the independent and moderator variables. Fourthly there should not be multicollenarity. Multicollenarity also checked as tolerance level of all variables greater than 0.2 and VIF (variance inflation factor) is less than 10. This result showed that there is no multicollenarity in the data. So, the data is acceptable for moderation effect. HB1 and HB2 are also accepted to have a significant impact on project success and the moderator effect of Top Management. The "R square" change by 14% after the interaction of top management success increased by the 14%. This moderation is significant at the level of $p < .001$.

Influence of planning on performance & success with moderator: (H1a, H1b, H1c, H1d)

Table 5: Impact of planning on performance and success

	Performance			Sig.	Success			Sig.
	R	R^2 Change	F	P	R	R^2 Change	F	P
Planning	0.698	——-	171.95	.000	0.422	———	39.319	.000
Planning, Top Management	0.770	——	131.03	.000	0.628	—-	58.614	.000
Planning, Top Management, Moderator	0.802	0.051	25.474	.000	0.691	0.082	28.220	.000

Significance at $p < 0.001$, $p < 0.005$

Table 5 showed the impact of planning on performance and success with the moderator (role of top

management). H1a accepted that planning has positively impact on project performance. The result was significant at [F (1,181) = 171.95, $p < 0.001$] with $R = 0.698$. H1c also accepted that top management positively moderate the relationship of project performance and planning at [F (2,179) = 25.474, $p < 0.001$]. The value of $R = 0.770$ change to $R = 0.802$ showed that 5.1% increase in performance after the involvement of top management. H1b accepted that role of planning has positively impact on project success. The value of [F (1,181) = 39.319, $p < 0.001$] with $R = 0.422$. H1d also accepted at [F (2,179) = 28.220, $p < 0.001$] that top management moderate the relation of project success and planning and it's positively impact on project success. The value of $R = 0.628$ change to $R = 0.691$ showed 8.2% positively impact of moderation on project success.

Influence of monitoring on performance & success with moderator: (H2a, H2b, H2c, H2d)

Table 6: Impact of monitoring on performance and success

	Performance			Sig.	Success			Sig.
	R	R^2 Change	F	P	R	R^2 Change	F	P
Monitoring	0.824	——-	382.385	.000	0.424	———	39.756	.000
Monitoring, Top Management	0.857	——-	249.562	.000	0.623	———	57.044	.000
Monitoring, Top Management, Moderator	0.859	0.003	167.762	.177	0.686	0.083	53.050	.000

Significance at $p < 0.001$, $p < 0.005$

Table 6 showed the impact of monitoring on performance and success with the moderator (top management). H2a accepted that monitoring has positively impact on project performance. The result was significant at [F (1,181 = 382.385, $p < 0.001$] with $R = 0.824$. H2c rejected that top management has not moderate the relationship of project performance and monitoring at [F (2,179) = 167.762, $p > 0.001$]. H2b accepted that role of monitoring has positively impact on project success. The value of [F (1,181) = 39.756, $p < 0.001$] with $R = 0.424$. H2d also accepted at [F (2,179) = 53.050, $p < 0.001$] that top management moderate the relation of project success while monitoring. The value of $R = 0.623$ change to $R = 0.686$ showed 8.3% positively impact of moderation on project success.

Influence of controlling on performance & success with moderator: (H3a, H3b, H3c, H3d)

Table 7: Impact of controlling on performance and success

	R	R^2 Change	F	P	R	R^2 Change	F	P
Controlling	0.611	——-	108.103	.000	0.353	———	25.777	.000
Controlling, Top Management	0.730	——-	102.641	.000	0.618	———	55.702	.000
Controlling, Top Management, Moderator	0.761	0.046	81.932	.000	0.738	0.162	71.103	.000

Significance at $p < 0.001$, $p < 0.005$

Table 7 showed the impact of controlling on performance and success with the moderator (role of top management). H3a accepted that controlling has positively impact on project performance. The result was significant at [F (1,181 = 108.103, $p < 0.001$] with $R = 0.611$. H3c also accepted that top management positively moderate the relationship of project performance and controlling at [F (2,179) = 81.932, $p < 0.001$]. The value of $R = 0.730$ change to $R = 0.761$ showed that 4.6% increase in performance after the involvement of top management. H3b accepted that role of controlling has positively impact on project success. The value of [F (1,181) = 25.77, $p < 0.001$] with $R = 0.353$. H3d also accepted at [F (2,179) = 57.499, $p < 0.001$] that top management moderate the relation of project success and role of project manager and it's positively impact on project success. The value of $R = 0.666$ change to $R =$

0.701 showed 4.7% positively impact of moderation on project success.

Influence of evaluation on performance & success with moderator: (H4a, H4b, H4c, H4d)

Table 8: Impact of evaluation on performance and success

	R	R^2 Change	F	P	R	R^2 Change	F	P
Evaluation	0.917	———	952.776	.000	0.623	——-	114.892	.000
Evaluation, Top Management	0.919	———	492.381	.000	0.688	———	81.030	.000
Evaluation, Top Management, Moderator	0.933	0.025	401.902	.000	0.718	0.042	63.656	.000

Significance at $p < 0.001$, $p < 0.005$

Table 8 showed the impact of evaluation on performance and success with the moderator (role of top management). H4a accepted that evaluation has positively impact on project performance. The result was significant at [F (1,181 = 952.776, $p < 0.001$] with $R = 0.917$. H4c also accepted that top management positively moderate the relationship of project performance and evaluation at [F (1,179) = 492.381, $p < 0.001$]. The value of $R = 0.919$ change to $R = 0.933$. H4b accepted that evaluation has positively impact on project success. The result was significant at [F (1,181) = 114.892, $p < 0.001$] with $R = 0.623$. H4d also accepted that top management moderate the relation of evaluation and project success at [F (2,179) = 63.656, $p < 0.001$]. The value of $R = 0.688$ change to $R = 0.718$ showed the 4.2% increase in success after the involvement of top management.

Influence of project manager on performance & success with moderator:- (H5a, H5b, H5c, H5d)

Table 9: Role of project manager & its impact on performance

	R	R^2 Change	F	P	R	R^2 Change	F	P
Role of Project Manager	0.809	———	343.802	.000	0.584	———	93.734	.000
Project Manager, Top Management	0.823	———	188.711	.000	0.666	———	71.800	.000
Project Manager, Top Management, Moderator	0.857	0.058	165.449	.000	0.701	0.047	57.499	.000

Significance at $p < 0.001$

Table 9 showed the impact of role of project manager on performance and success with the moderator (role of top management). H5a accepted that role of project manager has positively impact on project performance. The result was significance at [F (1,181) = 343.802, $p < 0.001$] with $R = 0.809$. H5c also accepted that top management moderate the relation of project performance and role of project manager and its positively impact on project performance. The value of [F (2,179) =165.449, $p < 0.001$]. The value of $R = 0.823$ change to $R = 0.857$ showed the 5.8% positively moderate the relationship by the involvement of top management. H5b accepted that role of project manager has positively impact on project success. The value of [F (1,181) = 93.734, $p < 0.001$] with $R = 0.584$. H5d also accepted at [F (1,179) = 57.499, $p < 0.001$] that top management moderate the relation of project success and role of project manager and it's positively impact on project success. The value of $R = 0.666$ change to $R = 0.701$ showed 4.7% positively moderate the relationship by the involvement of top management.

Coordination between project manager, top management, planning, monitoring, controlling, evaluation, performance and success (Ha, Hb, Hc, Hd, He, Hf, Hg, Hh)

For all paths Ordinary Least Square has been calculated. $Y = \alpha + \beta X$ represents the OLS equation. The purpose of OLS is to check the relationship between dependent and independent variables.

Table 10: Coordination and their impact between all variables

Linear Regression	R	F	p
a. Project Manager, Planning	0.757	242.838	.000
b. Monitoring, Project Manager	0.575	89.509	.000
c. Project Manager, Evaluation	0.935	1260.656	.000
d. Top Management, Evaluation	0.583	93.137	.000
e. Performance, monitoring, project manager	0.920	497.985	.000
f. Success, controlling, top management	0.618	55.702	.000
g. Controlling, top management	0.361	27.091	.000
h. Performance, success	0.635	122.386	.000

Significance at $p < 0.001$ & $p < 0.005$

TOP Management has management commitment, Communication with shareholders & stakeholders, set regulatory requirements. Form the project policy, ensuring the objectives, reviews conducted for management the events, ensure the available resources. Top management also ensures customer requirements, determination to meet requirements and intention to increase satisfaction. It also ensures the policies of the project whether that the purpose of the project is applicable or not. During planning top management also ensure that objectives are determined and reliable with quality policy. Top management also ensures about the planning, support of project management system, meet the requirements given in the project objectives and the reliability of the Project Management System. Top management also ensures that changes are sustained when there are any changes in the Project Management System, planning and execution. Top Management determined the authorities and responsibilities to managers for communication and collaboration with the team. The structural chart is approved by the top management for activities and gives responsibility to project manager to explain the duties to the team members and relationship between activities to accomplish a task. Top management has hired or selected the project managers for the specific project who are responsible for the performance and success of the project. Project manager is responsible for implementing the project management process or procedures to achieve the better performance and success. He or she ensured the process to be established, implemented and sustained. Project manager is responsible for feedback or reporting to top management, provides information for better decision making and producing good quality product, customer satisfaction, legal requirement and association with external parties. Top management has management review about suitability, effectiveness and adequacy at planned interludes. This review helps for improving and helping in any change in the product. This review also helps in auditing, feedback by the customers, confirmation of the product, process about performance, corrective and preventive actions with their status, from previous reviews action has been followed up. The enduring is suitable in case of any change in conditions or information. Selection of team members is done according to their skill, education, competencies and experience and also given training to enhance their capabilities and awareness. This helps in effectiveness of action taken and contribution to get the objectives. Top management is responsible to give and keep up the infrastructure to achieve conventionality product/service needs, workspace, office block, associated utilities, process technological equipment, transport, communication systems etc. Top management is also responsible for work environment and the requirement of product, services and commits to keep and exalt the atmosphere as needed. Internal audit is conducted by the project manager periodically and evaluates the project side by side and ensures effectively reporting to the top management and top management takes action promptly. During auditing program is planned to clear the area to be audited and result of previous audits is also done. The audit scope, frequency, criteria and methods are defined. To ensure objectivity and impartiality of the audit process there should be a clear selection of auditors. Project manager is responsible for taking actions timely for corrections without any delay and eliminate detected

unconventionalities and their reasons. He/She also is responsible to follow up the activities and verification of these activities and then report to top management for these activities. Project manager adopted suitable methods and procedures to achieve the planned results. He/She applied methods for monitoring and processes which are applicable to achieve the tasks. When planned activities are not achieved then proper action is taken for correcting the tasks according to the plan. Project manager monitor and check whether the requirements have been met or not at different levels. He/She is responsible to deliver the product to the customer after the satisfactory completion. Project Manager detects non-conformity and eliminates it. Project Manager controls action to eradicate the causes of possible individualisms in order to prevent their existence. Preventive actions are suitable to the possessions of the impending problems.

Limitations

Initiating, planning, monitoring, controlling and closing are the main phases of project life cycle. In this study planning, monitoring, controlling and evaluation are discussed with reference to the role project manager and top management. As initiation and closing are also main phases of the project life cycle but in this study both phases are not discussed. In this study the role of middle management is also not discussed. This study is based only temporary projects not operational projects. The core of the study included the process and procedures of the Planning, Monitoring, Controlling and Evaluation. But for the implementation of these strategies, a proper coordination is needed between project manager and top management for controlling the internal and external factors.

CONCLUSION & RECOMMENDATIONS

Project life cycle, project manager and top management are not only the aesthetic words of project management but they also increase the competence and credentials of project management. With the strategies of planning, monitoring, controlling, evaluation, responsibility of project manager and authority of top management project become successful with all its good enactment. After collecting and analyzing data the result showed that planning, monitoring, controlling and evaluation have strong impact on project performance and project success with the role of project manager and also moderator role of top management. It also showed that during performance top management has not any moderate effect in monitoring phase but it showed moderation in project success. Hence it is concluded that, in monitoring phase project manager has a leading role in running and monitoring the project for better performance and his/her reporting helps in getting the project success and also by authority of the top management. It should be discussed in future that in management practices one needs to understand the emotional intelligence due to involvement of personal factor in project life cycle. There is also a need of intensive further study on coordination and this should be introduced as knowledge of coordination management like all the other knowledge areas of project management. For academic the 'coordination' approach establishes real progress for resolving the issues which are hurdles to achieve success and introduce. Introduction of 'Evaluation' during monitoring & controlling in project life cycle also helped to overcome issues related to the ironic triangle. The authority (Power) of top management and responsibility of takes the performance from good to best and helps in getting success in an effective way.

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