

An Investigation of Project Evaluation Criteria in Pakistan's Private Sector

Muhammad Imran Anjum* and Atiqur Rehman**

*Shabeed Zulfiqar Ali Bhutto Institute of Science and Information Technology, Islamabad Campus, Pakistan.

** Adjunct Faculty Member, Shabeed Zulfiqar Ali Bhutto Institute of Science and Information Technology, Islamabad, Pakistan.

ABSTRACT

This article attempts to investigate how project success is evaluated by different organizations in telecom, construction, health care, pharmaceutical, computer & information system and manufacturing sectors of Pakistan. Based on literature review performance measures like, customer satisfaction, cost, minimum duration, technical specification, budget and minimum re-work were identified and analyzed. Data was collected from 200 respondents of 20 national and multinational companies by using a structured questionnaire. Results show that customer satisfaction is the primary objective for the project managers, and it remains highest priority for them through all stages of the projects.

Keywords– Project performance, Evaluation Criteria, Customer Satisfaction, Internal Measures, Quality

Authors emails

imran.anjum110@hotmail.com

atiq787@gmail.com

INTRODUCTION

Projects are used as tool for deriving competitive advantage (Padgett, 2009). However, how to deal with the issue of project failure continues to be an important challenge for project managers across the continents. Actually, biggest problem surrounds around the definition of project success and failure.

Definition of project success has remained under debate for about last four decades. Haried (2011) opines that the conception of success or failure of a projects lie in the eyes of beholders i.e. stakeholders.

Literature on the project management suggests that the definition has changed over the past years (Kerzner, 1998), with the evolution of the discipline of project management. During early years of the development of the discipline of the project management (i.e. 1950s), major emphasis was placed on project scheduling (Belassi&Tukel, 1996). In other words, initially, project completion time was the key success criteria. However, in 1960's, project was considered to be successful if it fulfilled the three main project constraints i.e. time, budget and required

quality, where quality of the project was defined as only meeting the technical specifications (Tukel & Rom, 2001). The definition was amended in late 1980's with the inclusion of customer satisfaction. According to revised definition, a project was considered successful if it succeeded in gaining the customer satisfaction, and meeting the specifications of time, cost and quality. Then the decade of 1990s shift of emphasis to quality of projects (Kerzner, 1998; Tukel& Rom, 1998). However, many authors like Padgett (2009) still lay greater emphasis on quality, time and cost (p. 10).

Towards the end of 1990s decade, another perspective was provided by Lim& Mohamed (1999). They grouped criteria of project success into two categories i.e. micro and macro viewpoints. They suggested that completion and satisfaction criteria are needed for the macro viewpoint while completion criterion alone is sufficient for the micro viewpoint. However, their views were over simplistic, as they mainly emphasized upon only two criteria i.e. completion and selection criteria.

According to Cooper's (1993) project quality is defined as the proportion of work being done which does not require rework. Hence, the definition of project success evolved in 1990s comprises four distinct dimensions; Shenhar *et al.* (1997) stated that a project could be evaluated on four distinct dimensions in which meeting budget and time as common dimension, while meeting technical specifications belongs to customer satisfaction dimension.

More recently, Chen *et al.* (2008) have come up with more refined concept. They suggest that a project management team must concentrate on controlling processes in the project lifecycle and addressing project constraints related with project deadlines, budget, customer expectations and specifications.

The challenge of achieving goals becomes more complicated when we move from one industry to the other, as every industry differs on the nature of projects and nature of challenges in managing projects. For Example the organization deals with computer and information systems face high technology uncertainty and the construction organization are often face finance and engineering problems (Zwikael & Globerson, 2006).

However, it is worthwhile to investigate, how actually project success criteria are evolved and followed. Tukul & Rom (2001) conducted a study to explore this area. They attempted to find out the performance measures commonly used by the project managers to evaluate the projects' success. They carried out this study in USA and collected data from 117 project managers from various project types and industries. Extensive literature review suggests that no further advancement has been made on this front.

There is a growing recognition among the community of project management researchers that culture has deep implications for the project management. National cultural differences may lead a project into failure (Jewel & Albon, 2013). Hence, it would be interesting to examine project success measures being used in other cultural settings.

USA is characterized by higher degree of individualism and lower degree of power distance. Review of available literature suggests that no such study has been carried out in a culture with lower degree of individualism and high power distance. It is very likely that culture may have any impact on the project selection criteria and findings may be different from those in the USA cultural settings. On account of Index of Individualism Pakistan USA scored just 14 against 91 scope of USA, and on long term orientation, Pakistan scored zero against 29 by USA (Hofstede, 2010). In order to bridge up this gap in the literature,

we carried out a similar study in Pakistan. Its objectives included:

- To study how projects are actually evaluated in Pakistan.
- To examine whether technical aspects are given preference over customer related aspects,.
- To evaluate how ISO certified companies establish criteria of project success.

BACKGROUND STUDIES

Literature review is categories into five sub-sections:

Project Success

The standard performance management metrics and tools impact standard performance management methodology, which in turn influence project success (Dweiri & Kablan, 2005). The use of iron triangle (Figure 1) specifically for project success is not ideal (Atkinson, 1999), as it involves only three dimensions i.e. scope, time and cost.

Fact of the matter is that there is no universally agreed definition of project output measures, the most cited project output variables are comprised of cost, schedule, technical performance outputs, and customer satisfaction (Kerzner, 2004). Still the discipline of project management is struggling to come up with an agreed definition of project success.

In measuring the overall performance of projects, multi-criteria decision making methods have been used to aggregate multiple performance measures under various application contexts (e.g. Barford, 2012; Marques *et al.*, 2011; Pillai *et al.*, 2002).

Ideally, an organization's strategic objective is to be given priority over all other objectives (Bourne, 2000). Hence, project success criteria must be related with organization's strategic objective. Many authors (Lewis, 1995; Williams, 1996; Rosena, 1998) have stated that a project is considered to be successful if even any one of the four objectives are met whereas it was also found that mostly the objective which project manager emphasizes the most usually meets.

One of the earlier studies on this area was conducted by Tukul & Rom (1997), which proposed a model and procedure for project scheduling issues and quality improvement techniques by reworking on project time and cost. The study also stated that the most important aspect of project success is the quality. However, major challenge lies in how to evolve a single definition of quality. Reeves & Bednar (1994) opine that quality of a project is variable and it varies from project to the project, therefore, it cannot be generalized with the help of one definition.

Project quality, besides dealing with technical specification, also deals with the customer requirements and making the customer satisfied at the end of the project. Hence, besides quality, customer satisfaction must also be an important criterion for project success (Barkley & Saylor, 1994). This can only be possible if the reworking is avoided by keeping the customer informed about the project progress at every stage. Even if the customer demands for anything new not previously planned or covered in the scope, in between the life cycle of the project, the project management system must have a provision of systematic procedures for addressing change in the scope/work or any other parameter.

The measures of project success need to include the diversity of stakeholders' interests (Milosevic and Patanakul, 2005). Based on all above discussion, this it is justified to say that the definition of project success or failure lies in the eyes of beholders i.e. stakeholders (Haried, 2011).

Project Cycle

There are four major stages in a typical project cycle that include conceptualization, development, implementation and termination. First two stages i.e. conceptual and development stages are clubbed to form planning stage.

The major factor in initial stages of the project is meeting budget, schedule and technical performance, therefore, the customer satisfaction prioritized in advance phase as external factor (Pinto, & Slevin, 1988). Generally project performance is a multidimensional concept however, the outcomes are commonly measured on the basis of cost, schedule, technical performance and client satisfaction (Baccarini, 1999; Bannerman, 2008; Shenhar *et al.*, 2001).

Pinto & Slevin (1988) suggest that in earliest stages especially when project planning phase is in progress, the customers should be given full attention. Based on this argument, we hypothesize that:

H1: During planning and termination stages satisfying customer needs take precedence in evaluating project performance.

Now the question arises here whether the project manager is customer focused during the project implementation phase. Literature suggests that at this time the measures are internal and customer are considered to be secondary where project manager mainly emphasizes on the objectives like time, budget and technical specifications at this stage (Reeves & Bednar, 1994). In such situation, customer's satisfaction

is often considered with lower priority (Pinto & Slevin, 1988).

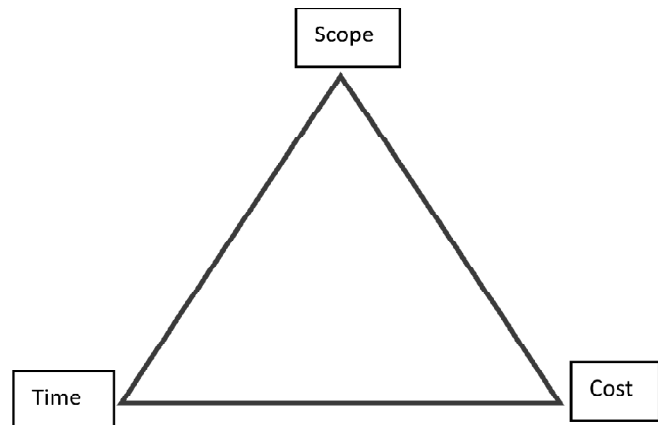


Figure 1: Iron Triangle

The literature persuades that in implementation performance measures take precedence on customer's requirement because the measures are internal and customer satisfaction is secondary (Pinto & Covin, 1989). Tukul & Rom (2001) believe that the project evaluation criteria is depending on the preference of evaluator, the project managers commonly measure the project performance on the basis of customer satisfaction, time, cost, rework and technical specification. In short, there are five project success criteria, which include customer focus, time focus, cost focus, rework focus, and technical specification focus.

Project managers are customer focused in planning and termination stages. Therefore, in implementation stage they are likely to focus on internal measures and give priority to meet the time, cost and performance. In line with the study of Tukul & Rom (2001), it is hypothesized that:

H2: During Implementation stage internal measures take precedence in evaluating project performance.

However, Tukul & Rom (2001) did not prove the H1 but accepted the H2.

ISO Certification

The initiatives of quality management such as total quality management (TQM) and just-in-time (JIT) are receiving growing attention. This is probably because much of the research on quality and self-reported non-financial firm performance measures are concentrated in the quality management paradigm (Sharma, 2005). Registration to the International Standards Organization (ISO) 9000 quality management standards has grown rapidly which suggests that there is wide spread belief

about benefit of ISO 9000 registration in business community (Heras, Dick & Casadesus, 2002). ISO 9000 provides benefits, which include improved customer satisfaction, smoother operations and lower costs, higher quality and productivity (Lo & Humphreys, 2000).

Tukel & Rom (1998 & 2001) opine that a quality of the project is primary success measure of project managers. The project congregates the quality if its meeting customer's needs, minimizing non-conformance, customer awareness about project progress and change in work scope to fulfill the promised requirement of customer (Tukel & Rom, 2001). It means the implementation of the project should be based on customer expectations and project manager should also have to be a customer focused.

As ISO Certification entirely focuses on quality, hence, it is very likely that ISO certified companies may have different project success criteria. In this context, we can divide companies into three categories:

- Companies with ISO 9000 certification.
- In process of getting ISO 9000 certification.
- Received quality awards for quality efforts.

ISO 9000 certified companies and the companies that have received quality awards are expected to have good relationship with customer and suppliers and some of them would have partnerships with suppliers to ensure quality efforts from their side as well. Such companies have well defined processes and documentation log to ensure better quality. Tukel & Rom (2001) found that companies that are customer focused in the implementation of projects are either ISO 9000 certified or in the process of getting the certification. Similarly, they also found that companies which have received quality awards are more customer focused in project implementation than companies which have not received quality awards. Hence, again, in line with the study of Tukel & Rom (2001), we hypothesize that:

H3: Companies that are customer focused in the implementation of projects are either ISO 9000 certified or in the process of getting the certification.

H4: Companies which have received quality awards are more customer focused in project implementation than companies which have not received quality awards.

Influence of industry preferences and project managers

We consider that the above provisional hypotheses should hold true in general, but there is possibility of variation due to industry preferences or project manager's influential/positional power.

Introduction and commercialization of new product idea is normally based on sets of activities for the project of new product development. Main objective during the implementation of new product development is to introduce the new idea to the market as fast as possible (Smith, & Reinertsen, 1991). Hence, time factor may be more crucial in such situation. In view of this proposition, we hypothesize that:

H5: During the implementation of new product development projects project managers are more likely to use time as a measure of performance.

Power and status of a project manager varies from organization to organization and situation to situation. Tukel & Rom (2001) highlight that the project success is based on selecting the right manager for the project. Meredith & Mantel (1995) suggest that the project manager should have to be from middle to upper level management with necessary managerial and technical skills. Similarly, Kerzner (1992) believes that the positional powers of project manager and functional manager should be same. Project managers believe that they are critical to project success and have a significant impact on the performance of their project teams (Parker & Skitmore, 2004). Change in the project manager and/or functional management are likely to have high impact on the performance measurement priorities. They are often subject to the change in managerial level and positional power. Higher management has affinity with cost for evaluation of project performance and the lower management considers technical specification as performance measure (Tukel & Rom, 2001). Power dynamics in Asian countries like Pakistan are significantly different from those in western countries. Asian countries have a collectivist culture and high power distance while that the western countries have individualist culture and low power distance. Hence, it is very likely that there is a departure in collectivist culture from the findings of Tukel & Rom (2001). It is therefore, an imperative to test the hypothesis that:

H6: If the project manager is from upper management, then he/she is more likely to use cost as a performance measure

H7: If the project manager belongs to lower management, then he/she focuses more on meeting technical specifications.

Focus on rework

A project meets the quality implication if right job done the first time i.e. elimination of reworking to save cost and time during project implementation. The only

reason of reworking is if promised requirement of customer and technical specification are not as per commitment. However, reworks increase project cost, time and it has to be reduced or eliminated (Cooper, 1993). The non-conformance and control of rework should have to be done by customer focused companies and for considerable results project managers should have to develop some scales to measure performance on rework elimination. So, we hypothesize that:

H8: Companies that are customer focused in the implementation of projects are also rework focused.

METHODOLOGY

Context

The Telecom sector comprises different type of companies like mobile operators, internet providers, cellular services, payphone, cable TV networks, phone manufacturers etc. The sector experienced an unprecedented growth in the decade of 1990s, when Government of Pakistan decided to deregulate the telecommunication sector and started awarding license to private mobile operators to launch their business operations in Pakistan. The phenomenon of growth in the telecommunication sector continued in the following decade. The internet and digital TV services companies are mostly operating in urban and sub-urban areas but they are expanding their business to cover maximum geographical locations.

However, it is worth-noting that Pakistan had stepped into the information technology field much earlier. The Pakistan Computer Bureau was established in 1971 and after that Computer Society of Pakistan established in 1973. Pakistan Software Houses Association was founded in 1992 by nine software houses and Pakistan Software Export Board was established in 1995 to promote the export of softwares from Pakistan. The software market gained boost in 1996 when Internet was introduced in the country (Osama, 2007).

The construction industry is more labor intensive, with moderately less use of mechanization. The construction industry in Pakistan is characterized by low investment in research and development, which hinders the industry's ability to adopt new technology and innovative processes. Further, construction projects in Pakistan is presently badly suffering from frequent time over runs and high over cost over runs, inability to meet user expectations and emergence of situations involving re-works due to construction defects.

Pakistan has a very vibrant pharmaceutical industry. At the time of independence in 1947, there was hardly any pharmaceutical industry in the country.

Today Pakistan has about 400 pharmaceutical manufacturing units including those operated by 25 multinationals present in the country. The industry meets around 70% of the country's demand of finished medicine. The domestic pharmaceutical market, in term of share market is almost evenly divided between the national and the multinational companies. Project management methodologies being practiced in this sector are fairly good.

The health care sector is under developed in the country. Hundreds of private institutions are performing in this sector on micro level except few bigger ones which are operating in main cities like Islamabad, Karachi, Lahore, and Rawalpindi. Some NGOs are also actively engaged in the health care.

Instrument for Data Collection

Data were collected by using questionnaire adapted by Bryde & Wright (2007) from Tukul & Rom (2001). Some changes were made in the questionnaire especially in the demographical section to make adjustments in accordance with the nomenclature used in Pakistani companies. The instrument comprises five major constructs which include customer focus, time focus, cost focus, Technical specification focus and rework focus. List of items is given in Table 1.

Section one of the questionnaire was meant to investigate the project manager priority using five-point likert scale: 1 indicates no priority and 5 means high priority.

Another section comprised 27 statements regarding trade off among these objectives using three point likert scale, never, sometime and always. The last two questions were meant to identify the frequency of reporting to investigate the project manager's control over performance indicators.

Sampling Strategy

Convenience sampling was adopted in view of the factors limiting easy access to the projects. In total 20 companies (national and multinational companies) were selected from five major industries i.e. telecom, construction, health care, computer & information system, and manufacturing, on the basis of nature and portfolio of projects.

Data Collection

Questionnaires were emailed and delivered by hand to 300 professionals working at different hierarchy levels like President/CEO, Director, and Project Manager and staff in 20 national and multinational companies. In response, we received 275 filled-in questionnaire, out of which 200 were found fit for analysis. Remaining 75

Table 1: Operational Definitions of Constructs**Customer focus**

Fully satisfying the customer needs takes precedence over any other objectives
 Holding scheduled meetings to inform the customer about the progress of the project
 Make prompt responses to any customer communications
 Despite additional cost or time, to meet customer's emerging requirements change the scope of the work
 Measure overall customer satisfaction level at the completion of a project
 Prepare reports concerning the level of conformance to customer specifications
 And take action to control this level

Time focus

Minimizing the project duration takes precedence over any other objectives
 To ensure meeting project milestones and deadlines:
 additional resources are made available;
 the reworking of non-conforming tasks are deferred and done during slack times;
 the technical specifications of the tasks are relaxed;
 design changes are avoided
 control this progress
 Evaluate supplier/subcontractors based on how well they meet schedules

Cost focus

Minimizing the project cost takes precedence over any other objectives
 To meet budget targets, technical specifications are relaxed, non-conforming tasks are not reworked
 and deadlines are relaxed
 Evaluate supplier/subcontractors based on how well they meet the agreed budget
 Prepare reports concerning the cumulative expenses occurred and take corrective action to control the expense

Technical specification focus

Fully meeting technical specifications takes precedence over any other objectives
 To fully meet technical specifications, deadlines are relaxed
 Despite additional cost and time, to fully meet technical specifications, non-conforming
 tasks are reworked
 Evaluate supplier/subcontractors based on how well they meet the project specifications
 Prepare reports concerning the level of conformance to technical specifications and take corrective actions

Rework focus

Reducing the reworking of non-conforming tasks takes precedence over any other objectives
 To correct non-conforming tasks deadlines are relaxed, significant amount of slack time is included in the
 schedule, and additional budget is allocated
 Non-conforming tasks are corrected as soon as the non-conformity is detected
 Prepare reports concerning the occurrence of non-conformities and take corrective action to control it

Source: Bryde & Wright (2007) and Tukul & Rom (2001)

questionnaires which were incompletely filled were discarded.

Data analysis and Generalization of results

Descriptive statistics, t-test and chi-square were used to carry out data analysis and to test the hypotheses. Results are largely representative of the selected private sector industries in Pakistan on the following grounds:

- Most of the projects are undertaken in these industries
- Projects are mostly controlled from big cities like Islamabad, Lahore and Karachi, and sample is representing these cities.

RESULTS AND DISCUSSIONS**Demographic profile of the respondents**

Position like president/CEO/division head and director/department head are considered in upper management and others in middle and lower management. Middle and lower management account for highest proportion of the respondents (i.e. 85%). Industry wise analysis suggests that construction and IT industry account for 56 percent of all respondents: 30% from construction and 26% from IT industry. The response from the manufacturing industry was 15% and rests of the

respondents were from telecom, health care and pharmaceutical.

In total 33% projects covered by survey relate to new product development, 37% to software installation and new system/technology projects, and remaining 30% to system re-engineering/improvement processes, process re-design and maintenance (See Annexure).

Table 3 (See Annexure) shows that percentage of new product development project is higher than other projects as 34% projects are in the domain of new product development. Projects of new system/technology and software installation are on second and third rank with share of 18.5% and 17% respectively. Other projects like process redesign, system re-engineering and maintenance have lesser share in the sample.

Response from ISO9000 certified companies is quite impressive as 66% firms (represented by the respondents) in all industries are having ISO 9000 certification (See Annexure: Table 4). Construction and computer & information system industries have higher percentage than other sectors. About 10% companies have received quality awards – all concentrated in telecom industry. Another 10 percent companies were in the process of getting ISO 9000 certifications, falling in construction and manufacturing industry. Remaining 15% firms were not contemplating for ISO 9000 certification – all falling in sectors of health care, pharmaceutical and manufacturing.

RESULTS AND DISCUSSION

Results of the study revolve around eight hypotheses, as established in the section of literature review. Results are presented below:

H1: The internal measures (Cost, Time, Technical specification, rework) take precedence for evaluation of project performance in implementation stage. Mean value (of preference) is plotted on Y axis and four project stages are taken on X axis. Figure 2 shows that H1 is not supported by results of the study so it is rejected.

Results suggest that the customer satisfaction is the first priority of project managers in implementation stage. Moreover, results also show that customer satisfaction is given priority at all stages of the project cycle.

H2: The customer needs/ satisfaction takes precedence for evaluation of project in planning and termination stages. This hypothesis is supported by the results by looking at Figure 2 and the significant value of chi-square given in Table 5. We see that customer

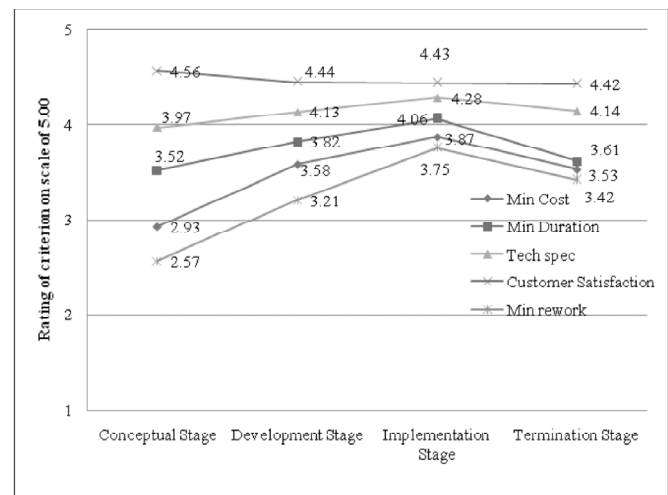


Figure 2: Preference of success criteria across the project cycle

Table 5: Fully satisfying customer need in Planning Stage * Fully Satisfying Customer need in Termination Stage

		Fully satisfying the customer's need at termination stage			Total
		Normal/Considerable Priority	High Priority	Very High Priority	
Fully Satisfying the Customer's Need on Conceptual Stage	Normal/Considerable Priority	0	6	0	6
	High Priority	6	48	23	77
	Very High Priority	5	40	72	117
Total		11	94	95	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	25.655(a)	4	0.00
Likelihood Ratio	28.316	4	0.00
Linear-by-Linear Association	19.036	1	0.00
N of Valid Cases	200		

Table 6: Fully Satisfying the Customer's Need on Implementation Stage * ISO2 Cross tabulation

		ISO2 ISO Certified or in process	Not contemplating getting ISO Certification	Total
Fully Satisfying the Customer's Need on Implementation Stage	Normal/Considerable Priority	11	2	13
	High Priority	70	18	88
	Very High Priority	83	16	99
Total		164	36	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.646 ^a	2	0.724
Likelihood Ratio	0.643	2	0.725
Linear-by-Linear Association	0.197	1	0.657
N of Valid Cases	200		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 2.34.

Table 7: Satisfaction of Customer's in Implementation Stage with Quality Awards

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2- tailed)	Mean Diff
Fully Satisfying the Customer's Need on Implementation Stage	Equal variances assumed	6.351	0.013	2.090	198.00	0.038	0.300
	Equal variances not assumed			2.611	26.99	0.015	0.300

*Fully Satisfying the Customer's Need on Implementation Stage * Quality Award Cross tabulation*

		Quality Award		Total
		1	2	
Fully Satisfying the Customer's Need on Implementation Stage	Normal/Considerable Priority	13	0	13
	High Priority	82	6	88
	Very High Priority	85	14	99
Total		180	20	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.321 ^a	2	0.115
Likelihood Ratio	5.536	2	0.063
Linear-by-Linear Association	4.297	1	0.038
N of Valid Cases	200		

a. 1 cells (16.7%) have expected count less than 5. The minimum expected count is 1.30.

satisfaction is top priority for project managers in all stages of project. It means it is the most important objective of project manager so the H2 is accepted here as the customer satisfaction has taken precedence on all other performance measures during planning and termination stage.

H3: Since significance value of Chi-Square is far higher than 0.05, likelihood ratio and linear by linear

association should have to be in the range of 0.00 to 0.05 for hypothesis acceptance. It implies that there is no relationship between the status of ISO Certification and the approach of companies related with customer focus. Hence, H3 is rejected. In other words, the companies laying greater emphasis on the customer needs are not necessarily the ISO certified.

H4:Results given in Table 7 support H4 as the t-test value is 0.013. In other words, companies which have received any quality award are more likely to be customer focused during implementation than those companies which have not received any award. It means that companies that have received quality awards have focused high on the customer satisfaction during implementation of project. It is also pertinent to

highlight that project managers of quality awarded firms gives priority to objective of customer satisfaction over internal measures of performance.

H5:This hypothesis is not supported by the results as the relationship between internal performance measure and customer satisfaction in implementation stage of project for new product development is not significant – t-value is insignificant.

Table 8: Projects Manager's Performance Measures for New Product Development

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff
Minimize the Project Duration on Implementation Stage	Equal variances assumed	0.82	0.364	1.58	198.0	0.11	0.110
	Equal variances not assumed			1.79	185.9	0.07	0.110

H6: This hypothesis is also not supported by the data. Table 9 shows that relationship for cost on all four stages is insignificant from the context of upper management (conceptual stage, t = 0.706; development, t = 0.45; implementation, t = 0.68; and termination, t = 0.65) of the project. The chi-

square value in this case is also higher. It seems that as internal measure, cost is not taking precedence over customer satisfaction on defined project stages. It also indicates that objective of upper management is not supporting the project manager's objectives.

Table 9: Upper Management Use Cost as Performance Measure on all Project Stages

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean
Minimize the Project Cost on Conceptual Stage	Equal variances assumed	0.142	0.706	0.19	198.0	0.852	0.010
	Equal variances not assumed			0.19	41.13	0.847	0.010
Minimize the Project Cost on Development Stage	Equal variances assumed	0.562	0.454	0.50	198.0	0.619	0.049
	Equal variances not assumed			0.49	39.35	0.627	0.049
Minimize the Project Cost on Implementation Stage	Equal variances assumed	0.166	0.684	0.91	198.0	0.362	0.116
	Equal variances not assumed			0.93	40.52	0.358	0.116
Minimize the Project Cost on Termination Stage	Equal variances assumed	0.199	0.656	1.15	198.0	0.252	0.114
	Equal variances not assumed			1.14	39.71	0.261	0.114

*Minimize the Project Cost on Implementation Stage * Upper mgt Cross tabulation*

		Upper management		
		1	2	Total
Minimize the Project Cost on Implementation Stage	Normal/Considerable Priority	25	31	56
	High Priority	50	65	115
	Very High Priority	13	16	29
Total		88	112	200

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.030 ^a	2	0.985
Likelihood Ratio	0.03	2	0.985
Linear-by-Linear Association	0.00	1	0.979
N of Valid Cases	200		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 12.76.

H7: This hypothesis tests the preferences of lower management on project planning, implementation and terminations stages for technical specifications. Table 10 presents the highly significant relationship as the chi-square value is closer to 0.05. This indicates that the lower management priorities are bit different than upper management and the project managers from lower management give preference to technical satisfaction in implementation stage of project.

Table 10: Fully Meet Technical Specification on Implementation Stage * Upper Management Crosstabulation

		Upper Management		
		1	2	Total
Fully Meet Technical Specification on Implementation Stage	Normal/Considerable Priority	5	17	22
	High Priority	45	56	101
	Very High Priority	38	39	77
Total	88	112	200	

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4.948 ^a	2	0.084
Likelihood Ratio	5.243	2	0.073
Linear-by-Linear Association	3.728	1	0.053
N of Valid Cases	200		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 9.68.

H8: Table 11 presents the last hypothesis is also not supported by the data as the chi square value is highly insignificant. The customer focused companies never prefer re-working; it means project managers prefer to eliminate the non-conforming tasks in project stages to reduce the rework cost. This approach helps to reduce cost and time of project as well.

DISCUSSIONS AND CONCLUSION

The analysis suggests that project manager's primary objective is customer satisfaction along with quality of project deliverables, at all stages of the project cycle. This finding is consistent with the study of Tukul & Rom (2001), which was conducted in USA. It implies that

Table 11: Fully Meet Technical Specification on Implementation Stage * Reducing the Re-working on Non-conforming Task on Implementation Stage Cross tabulation

		Reducing the Re-working on Non-conforming Task in Implementation				
		Minor Priority	Normal Priority	High Priority	Very High Priority	Total
Fully Meet Technical Specification in implementation	Normal Priority	0	4	16	2	22
	High Priority	1	30	62	8	101
	Very High Priority	2	25	45	5	77
Total		3	59	123	15	200

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.080 ^a	6	0.799
Likelihood Ratio	3.444	6	0.751
Linear-by-Linear Association	2.197	1	0.138
N of Valid Cases	200		

a. 4 cells (33.3%) have expected count less than 5. The minimum expected count is .33.

pattern is likely to be alike in both developed countries like USA and developing countries like Pakistan. Based on this consistency, we can draw inference that customer satisfaction is very likely to be a priority at all stages of project cycle, across the developed and developing countries and there is less likelihood of the influence of culture on it.

The quality of project deliverables is based on involvement of customer on every stage of project. They have to be kept informed along the entire life cycle of the project. Results show that the internal performance measures like cost, time, technical specification and rework are associated with customer satisfaction from planning to termination of project. So the internal performance measures are used less with lesser priority than the criterion of customer focus. Telecom sector in Pakistan is more focused towards customer centric approach to increase the number of subscriber/customer and this can be a reason to prioritize external performance measures, however, simultaneously they also believe on operational excellence to consider the internal performance measure. Market competition also contributes in prioritization of external measure in construction and manufacturing sector.

Managers of health care and computer information system are customer focused but in parallel they also consider the cost, time, technical specification on adequate level. This might be due to high cost of technical equipment. And another reason could be high employee turnover. Project manager of computer information system sectors might be focused on internal measures as they are concerned to retain their resources and also their project rework not required much effort as these products are based on codes instead of material. In comparison other industries have a complete opposite situation and maybe that's why the priority difference exists between industries.

The companies having ISO9000 certification and implementing it properly or in process of getting certification always focus on quality work like the companies have received quality awards for their quality efforts.

The hypothesis that puts prominence on using internal measures is not supported by the data. In new product development projects time is not important performance measure. Upper management is not cost focused but the lower management is technical specification focused. In general, the importance of customer focus holds dominance at every stage of project, for every type of project regardless of the industry.

Results show that project evaluation preferences vary considerably. There are no set standards for project evaluation.

Suggestion and Recommendation

This study indicates that there is some difference in preferences for project evaluation criteria between upper and lower management. It shows that there is no properly defined and standard practice for the evaluation of project. It is strongly recommended that they have to align their strategy according to organizational goal for higher effectiveness and consistency in results. Project managers preferences during the project phase should be linked with other performance measures (cost, time etc.) as well to achieve the Return on Investment (ROI) for the organization. Evaluation criteria for internal performance measure should be clearly communicated to human resource directly involved in the projects.

REFERENCES

- [1] Atkinson, R. (1999), "Project management: cost, time and quality, two best guesses and phenomenon, its time to accept other success criteria. International". *Journal of Project Management*, 17(6), pp. 337-342.
- [2] Belassi, W. & Tukel, O. I. (1996), A new framework for determining critical success / failure factors in projects. *International Journal of Project Management*, 14(3), pp. 141-151.
- [3] Baccarini, D. (1999), "The logical framework method for defining project success". *Project Management Journal*. 30 (4), pp 25-32.
- [4] Bourne, M., Mills, J., Wilcox, M., Neely, A., Platts, K. (2000), "Designing, implementing and updating performance measurement systems". *International Journal of Operations & Production Management*, 20(7), pp. 754-771.
- [5] Bryde, D. J. & Wright, G. H. (2007), Project management priorities and the link with performance management system. *Project Management Journal*, 38(4), pp. 5-11.
- [6] Cooper, K. G. (1993), "The rework cycle: benchmarks for the project manager". *Project Management Journal*, 24(1), pp. 17-21.
- [7] Chien, C. F. (2002), "A portfolio-evaluation framework for selecting R&D projects". *R & D Management*, 32(4), pp. 359-368.
- [8] Dweiri, F. T. & Kablan, M. M. (2005), "Using fuzzy decision-making for the evaluation of the project management internal efficiency". *Decision Support System* 42 (2), pp
- [9] Englund, R. L., Graham, R. J. (1999), "From Experience: Linking Projects to Strategy". *Journal of Product Innovation Management*, 16(1), pp. 52-64.
- [10] Haried, P. (2011), Stakeholder Challenges in Information Systems Project Offshoring: Client and Vendor

- Perspectives. *International Journal of Information Technology Project Management*, 2(3), pp. 1-16.
- [11] Humphreys, P. & Lo, V. (2000), "Project management benchmarks for SMEs implementing ISO 9000". *Benchmarking: An International Journal*. 7 (4), pp. 247-259.
- [12] Hofstede, G. (2010), *Culture and Organizations: Software of the Mind*. New York: McGrawHill.
- [13] Jewel, T. & Albon, R. (2013), "Implications of Cultural Differences in International Projects". *International Journal of Information Technology Project Management*, 4(1), pp. 58-71.
- [14] Jugdev, K. & Müller, R. (2006), "A retrospective look at our evolving understanding of projectsuccess". *Project Management Journal*, 36(4), pp. 19-31.
- [15] Icmeli-Tukel, O. & Rom, W.O. (2001), "An empirical investigation of project evaluation criteria". *International Journal of Operations & Productions Management*, 21(3), pp. 400-416.
- [16] Icmeli-Tukel, O. & Rom, W.O. (1997), Ensuring quality in resource constrained projectscheduling. *European Journal of Operational Research*, 103, pp. 483-96.
- [17] Icmeli-Tukel, O. & Rom, W.O. (1998), "Analysis of the characteristics of projects in diverseindustries". *Journal of Operations Management*, 16, pp. 43-61.
- [18] Kerzner, H. (1998), *In Search of Excellence in Project Management*. New York, NY: Van Nostrand Reinhold.
- [19] Lewis, P. J. (1995), *Project Planning, Scheduling and Control: A Hands on Guide to BringingProjects in on Time and on Budget*. New York, NY: McGraw-Hill.
- [20] Lim, C.S. & Mohamed, M. Z. (1999, August), "Criteria of project success: an exploratory re-examination". *International Journal of Project Management*, 17(4), pp. 243-248.
- [21] Meredith, J.R. and Mantel, S.J. (1995), *Project Management: A Managerial Approach* (3rd ed.). New York, NY: John Wiley & Sons.
- [22] Padgett, C.M. (2009). *The Project Success Method: A proven approach for achieving superior project performance in as little as 5 days*. New Jersey: John Willey & Sons.
- [23] Pinto, J.K. & Covin, J.G. (1989), "Critical factors in project implementation: a comparison ofconstruction and R&D projects", *Technovation*, 9, pp. 49-62.
- [24] Pinto, J. K. and Slevin, D. P. (1988), "Project success: definitions and measurement techniques". *Project Management Journal*, 19(3), pp. 67-73.
- [25] Parker, S.K & Skitmore, M. (2004), "Project management turnover: causes andeffects on project Performance". *International Journal of Project Management*. 23, pp. 205-214.