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Impact of Project Performance Measurement System on Project Success: A Study Based on NGO Sector of Pakistan

Zaib Un Nisa[a]*, Uzma Javed[b], Hira Akhtar[c]

[a]*COMSATS Institute of Informational Technology, Park road, Islamabad, 45550, Pakistan*

[b]*Effat university Jaddah, 21432, Kingdom of Saudia Arabia*

[c] *COMSATS Institute of Informational Technology, Park road, Islamabad, 45550, Pakistan*

[a]*Email:zaibunnisa88@gmail*

[b]*Email:usjaved@effatuniversity.edu.sa*

[c]*Email:hira87@gmail.com*

Abstract

This research strives to examine the relationship between the two profound dimensions of Project Performance Measurement System (i.e. project design and Monitoring and Evaluation) and project success in NGOs. A self-administered survey was used to collect responses from project practitioners on monitoring and evaluation (M&E) and project design practices in health sector NGOs (Non-Governmental Organization): Of 220, 108 useful responses were received and then analyzed in SPSS. The results showed that: 1) M&E practices are being frequently used in NGO projects of Pakistan, 2) particular care has been taken while designing the projects, and 3) both variables have a positive relationship with project success 4) M&E showed greater impact than project design on project success. Therefore, NGOs should strengthen project design and M&E in order to improve project implementation as well as the chances for project success.

Keywords: Performance Measurement; Monitoring and evaluation; project success; project design.

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* Corresponding author.

E-mail address: zaibunnisa88@gmail.

1. Introduction

Project performance measurement supports the project oriented organizations to monitor and evaluate their performance in order to accomplish their strategic goals and therefore plays a crucial role in their sustainability and growth. The key word of performance measurement system is being extensively researched in profit oriented organizations [1] and public sector organizations [2]. But review of literature indicates that very few/limited studies have been conducted on measuring project performance in nonprofit organizations especially in the context of developing countries like Pakistan. Project performance measurement system comprises certain key performance indicators, performance matrices and dashboards, against which the project performance could be monitored and evaluated throughout the project life cycle, in order to manage the project performance [3]. Asian Development Bank describes a project performance measurement system as a tool for setting the project objectives, helps in project designing, monitoring and evaluating the performance of the project as whole [4]. It is not evident in the literature that PPMS ensures project success, nor is it clear that their absence guarantee project failure. However if PPMS is implemented efficiently it can increase the chances of project success [5]. As NGO's are projectized organizations with explicitly challenging goals and objectives and the success of the NGO's is tied to their project success rate. Therefore, the absence of PPMS could hinder the project performance [6] and ultimately affecting the performance of organization. Researchers have identified a positive relationship between project design and M&E on developmental project success [7] as these are two important functions of PPMS [8].

The PPMS in social and developmental sector comprises on impact, outcome and output indicators in order to monitor the impact of activities, fosters the maximum utilization of resources and provide information for project performance reporting to the key stakeholders [9].The need of PPMS for monitoring and evaluation becomes more important in not for profit settings as competition for funds and demands for greater accountability of resources by stakeholders and the donor agencies enhanced. Thus, the necessity of NGO performance measurement system for not only assessing and boosting the NGO project success but also for their sustainability is of vital importance in developing societies. [10, 11, 12].Thus this study will be a valuable addition to the existing literature on Project Performance Measurement System particularly in NGO sector of Pakistan. The NGO sector in Pakistan is specifically prone to economic setbacks and events such as social and financial crisis which exert sheer pressure on achieving outcomes and on levels of accountability of NGO's Performance. Furthermore, NGO sector is an important pillar of civil society in Pakistan: as shown in table 1.1.

NGOs are heavily concentrated in Punjab and Sindh, 56% and 34% respectively. Only 5% of all NGOs are in Khyber Pakhtunkhuwa and another 5% in Baluchistan as shown in figure 1.

The study would cater only local NGO's operating in Pakistan (87% NGO's are locally funded) and the main domain of consulted NGOs would be health or education sector mainly within Islamabad and Rawalpindi area. The sector wise selection is done because health sector caters 6% and education sector entails 47% of the total NGO sector in Pakistan (as shown in figure 2).

Thus, in underdeveloped and developing countries like Pakistan the NGO's are playing a key role in economic

growth and development of the nation by grooming the civil society. Moreover the use of Project Performance Measurement system is among one of the most important critical success factors and by utilizing PPMS information for designing projects and M&E project managers could easily monitor and manage the project performance.

Table 1.1: Overview of Pakistani Ngo Sector

Civil society contains NGO's	**60.000 (2001)-100,000 (2013)**
Registered and active	45000 and 10,000
Foreign Funded	6% so sector's value
Local Funded	87% of sector's value

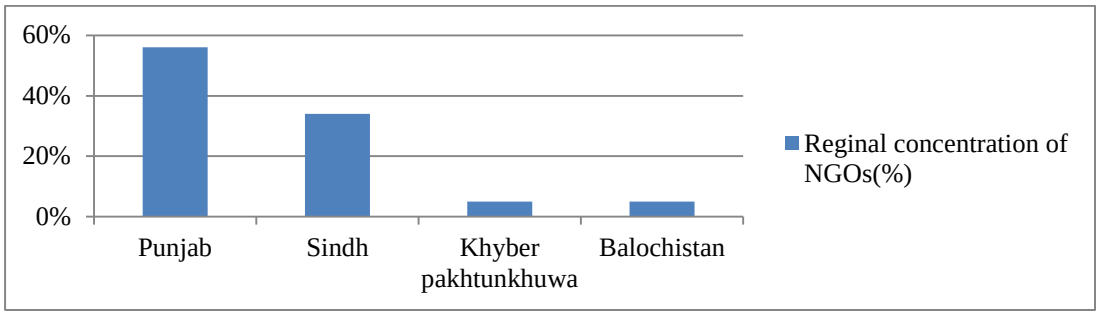

Figure 1: NGOs Distribution

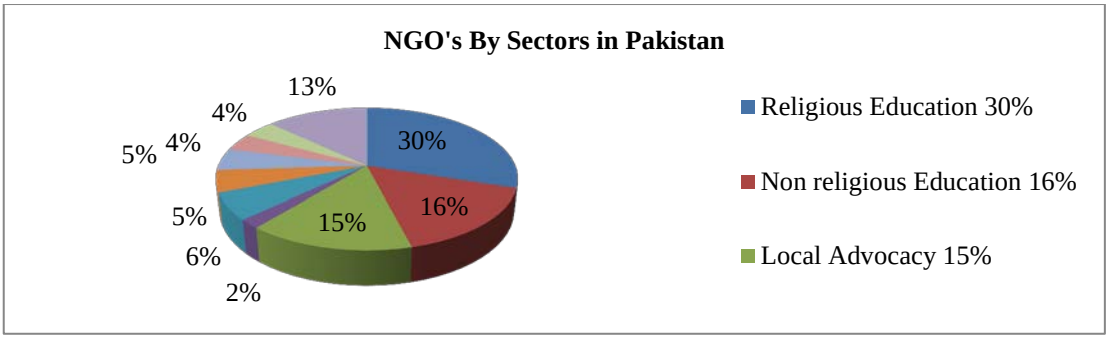

Figure 2: NGOs by sector in Pakistan

As NGOs are integral component of civil society in Pakistan and government use their assistance to implement many developmental projects. A well established and sustained PPMS has the potential to lead the projectized organizations towards meeting its responsibilities and achieving its goals, even when faced with socio-political crises that affects the development sector so often in Pakistan. PPMS works as an alarming system as well as a shield against organization's amenabilities and it also helps in attracting and retaining donors. So it is of worth assessing that does PPMS has an impact on NGO project success or not. . Hence, present study addresses the following research questions and objectives:

Research question 1: How frequently are various project design practices used in NGOs?
Research question 2: How frequently are various M&E practices used in NGOs?
Research question 3: Is there any relationship between project design and M&E practices and project success?
Research question 4: What dimensions of project success are applicable to NGOs?

Above mentioned research questions are translated into following research objective

- To explore the project success dimensions applicable on measuring NGO's project success.
- To examine the frequency of usage of M&E and project design in NGO sector.
- To determine the impact of M&E practices on project success dimensions.
- To examine the extent to which project design affects project success.
- To empirically assess the indirect impact of using PPMS on NGO's project success.

Lack of accountability and checks in project oriented organizations like NGO's can lead towards the shortage of resources that could linger the project completion date and in most of the cases the project get closed due to the miss management of resources and funds **[13]** Thus, by maintaining suitable PPMS for not only project designing but also for monitoring & evaluating NGO projects would ensure the effective and optimal utilization of resources, provided by their donor agencies. Moreover, it would enhance the likelihood of project success because what gets measured gets controlled and then could be managed easily. Sheer literature is available on PPMS and project success but not specifically in NGO sector or not for profit organizations, especially in the context of Pakistan. This study would be of worth doing because it provides an understanding of using PPMS in NGO settings of Pakistan and then this study would empirically examine the link between use of performance measurement system and project success, which is not being explored yet

2. Theory and Hypothesis section

A review of the past literature on definition of NGOs, PPMS, its constituents and use of PPMS in NGOs and review on each of the independent variable (M&E and project design) as important success factors and search on project success dimensions has been performed. It also identifies the indicators of the variables, M&E and project design and project success. Other than this the literature review is also used to validate the relationships between these variables in order to develop the research model and to define the hypotheses for this study. The following questions are used to develop on the literature review:

1) How the research has developed in the area of PPMS, its importance and use?
2) What methods have dominated the past literature on PPMS and project success?
3) What are critical project success factors and success dimensions in development sector?
4) Elaborating the importance and use of PPMS in nonprofit organization
5) What aspect future research should focus on?

2.1 Literature search and inclusion criteria

To find the relevant literature the two major journals in the area of project management were reviewed. These

journals were, 1) Project Management Journal (PMJ) and 2) International Journal of Project Management (IJPM). All important papers relevant to the objective of this research were found by using the keywords monitoring and evaluation, project design, project success, project performance measurement, NGO.

Initially, research papers published during 2008-2013 were reviewed. Later the search was expanded to include papers published in between (2002-2007).The papers were included in the review if they were found relevant to the objectives of the present study. Furthermore, the reference list of important papers was used to expand the literature search to other important journals and databases. As not many papers were available for project performance measurement the two major journals mentioned above a direct search was made on the relevant databases available. The main databases used for the overall literature search were:

EBSCO host (Business Source Complete and Business Source Premier) (web.ebscohost.com),

Emerald (www.emeraldinsight.com) and

Elsevier Science Direct (www.sciencedirect.com)

According to Asian Development Bank the term non-governmental organization refers to organization that are neither government based and nor created to earn profit and United Nations defines it as "NGOs are private organizations that pursue activities to relieve suffering, promote the interest of poor, protect the environment, provide basic social services or undertake community development "An eye bird view NGOs, has been provided like "NGOs are private, not-for-profit organizations that aim to serve particular societal interests by focusing advocacy and/or operational efforts on social, political and economic goals, including equity, education, health, environmental protection and human rights." [14].

2.2 Definition of NGO's and overview of Pakistani NGO sector

The term NGO seems to be shrewdly simple but there exist no standard or specific definition in literature of what an NGO is. The definition of NGOs varies as: According to Asian Development Bank the term non-governmental organization refers to organization that are neither government based and nor created to earn profit and United Nations defines it as "NGOs are private organizations that pursue activities to relieve suffering, promote the interest of poor, protect the environment, provide basic social services or undertake community development". There is no consensual definition of what an NGO is, but they suggest these are independent, non-profit seeking, self-maintaining and campaigning organizations with emphasize on the well-being of others. Thus, NGO's or not for profit organizations are the entities that play a key role in developing the civil society and ultimately leading to economic development.

Researcher is targeting on the local level NGOs as according to a report 87% NGOs working in Pakistan are local NGOs .In the context of this research Local NGOs implies that they have their headquarters and operations in the country as opposed to the international NGOs whose policies and systems are from their headquarters based outside of the country. Local NGOs included national NGOs operating on national scale or more than one district. Most of the NGOs are operating in Punjab and Sindh and the main domain of their functionality is

education and health sector.

2.3 PPMS constituents, importance and use

PMS holistically could be defined as: *"the evolving formal and informal mechanisms, processes, systems, and networks used by organizations for conveying the key objectives and goals elicited by management, for assisting the strategic process and ongoing management through analysis, planning, measurement, control, rewarding, and broadly managing performance, and for supporting and facilitating organizational learning and change"*. This study utilized A 12 point Performance management framework that was being devised by [2] to qualitatively configure the design and use of performance measurement/ management system in INGO. Semi structured interview were taken on these twelve themes (Vision and Mission-Key Success Factors, Organizational structure, Key Performance Measure, Performance Evaluation, Strategies and plans, Information flows, PPMS change, Target settings, Reward System, Use of Information, Strength And coherence). This paper concluded that this framework is equally effective in analyzing the performance measurement system of profit as well as of nonprofit organizations.

Project performance measurement system comprises on certain Key performance indicators, performance matrices and dashboards, against which the project performance could be monitored and evaluated throughout the project life cycle, in order to find out either the project is success or failure**.**Kerzner further suggested that one cannot effectively manage a project without having good metrics and reasonably accurate measurement capable of providing you with complete (or nearly complete) information. Monitoring and evaluation functions are closely linked project management functions and these words are used as a single acronym in literature without making a clear distinction and these two terms are complementary to each other that's why mostly used in conjunction. A well designed and properly managed performance measurement system not only contributes enormously in monitoring but also paves way for evaluation of project

Some studies included performance measures, infrastructure, and use, formalization of PMS processes, deployment, and results dimensions in his performance measurement model. This paper discusses that one of the important reason to measure performance is the use of PPMS information in planning, monitoring, controlling and improving activities at different levels of project life cycle. The aim of performance measurement is to help organizations understand how decision-making processes or practices led to success or failure in the past and how it can lead to future improvements. Hence**,** PPMS should be more like methodology for conceptualizing projects and an analytic tool that allows a project manager to detail and scrutinize a project clearly and understandably. This paper discusses the strategic, communicational and motivational roles of performance measurement system [15].

According to PMBOK (4^{TH} Edition) the project performance measurement comes under project Monitoring & evaluation that is an integral process of project integration management (one of among nine knowledge areas of PM).Hence, the basic aim of PPMS is monitoring and evaluating the project performance throughout the project lifecycle in order to sustain its performance. Strategic performance measurement system gives information that helps in achieving the firm's objectives, and aligns management processes, such as target setting, decision-

making, and performance monitoring and evaluation, with the achievement of the selected strategic objectives. A Web-based Project Performance Measurement System (PPMS) assists project managers in Monitoring and evaluating the project performance and that system quantitatively measured the project performance on eight different dimensions but in construction sector [6].

Researchers measured impact of PPMS in terms of eight (08) factors and ten (10) items for the PPMS impact measurement, which contributed to overall improvement in performing management tasks of project managers, success of projects and project performance as well but this is done construction sector. Five (05) point Likert scales were used for both measurements[17].Emphasize is being laid on the use of performance measurement for controlling and monitoring purposes in order to analyze if the project is performing as planned or not .The project control system should focus on the project objectives with the aim of ensuring that the project mission is achieved[8].Project success is not significantly influenced by the level of project design but a significant positive relationship does exist between the use of monitoring and evaluation tools and project profile[16].Hence, literature showed that the basic purpose of PPMS is M&E but in development sector it is also helps in project designing so, researcher would assume that any system that is being used by NGOs for not only monitoring and evaluating the project performance but also for designing the projects would be called as PPMS.

2.4 Annotation of project success

There is no consensus as to what breeds “projects success” and “project failure. In literature the project success concept defined differently by different authors.

Initially Project success has long been considered the ability to fall within time, cost, and quality constraints. Canadian Oxford Dictionary defined success as the attainment of aim or a desirable outcome. Literature also made distinction in project success dimensions and critical success factors. *Project success dimensions* refer to a group of principles or standards used to determine project success, and *critical success factors* refer more specifically to conditions, events, and events that contribute to project results/outcomes [18].

2.4.1 Project critical success factors

Reference [7] discuss that PPMS is used for monitoring and evaluating the project performance. The use of Project Performance Measurement system is among one of the most important critical success factors and by utilizing PPMS information project managers could easily monitor and manage the project outcomes but this link is qualitatively assessed [18] Further suggested that the project charter should include the negotiated success metrics, the project dashboard for visual monitoring of the metrics, and the project retrospective should document the actual results, concluding with overall stakeholder satisfaction.

Table 1.2 shows that M&E and project design are critical to the project success in development sector. Reference [19] Reviewed 12 papers that lay emphasize on the significance of M&E for controlling project performance. Standardized M&E practices can help control and integrate project activities in order to timely achieve project goals. M&E plan should be an integral part of project design as well as project implementation and completion. The two project management bodies of knowledge are the Project Management Institute (PMI)

body of knowledge (PMBOK) and the Association of Project management (APM) body of knowledge (APMBOK) divides project life cycle into five major stages: initiation, planning, implementation, control and close out states that project design is prepared at the initiation phase which later on supports the project planning and afterwards M&E practices should be observed from implementation to closeout phase and basically M&E supports the control process as shown in (Table 2).

Moreover a good project design must have the overall project goals, proposed target and output and also document the assumptions and external factor that could have profound impact on project outcomes and must include sufficient M&E budget[20].project design and M&E have the most significant impact on the project success in development sector [7] and according to ADB project performance measurement system is used for project designing which leads to better project planning and Monitoring and evaluating the project performance.

Table 1.2: Use of PPMS throughout the Project Life Cycle

Project life cycle phases	Use of PPMS
Project initiation	Project Design
Project planning	
Project implementation	Monitoring and Evaluation
Project control	
Project close out	

2.4.2: Project success dimensions for NGO

Projects Success (or failure) criteria will differ from project to project depending on a number of variables including size, uniqueness, industry, complexity and the stakeholders involved. The 15 semi structured interviews were carried out over a six-month period from project management professionals. The samples were identified using non-random purposive sampling techniques [21, 22] these authors also had done similar kind of work in identifying and using project success dimensions and factors. The adequate measurement of the project success / failure in nonprofit organization settings is yet a dilemma to be solved. Abundant literature is available on project success dimensions for profit oriented organizations but very limited literature is available on project success dimensions/criteria/measure and success factors in NGO sector especially in the context of Pakistan.

From the literature researcher analyzed that most of the work on project success dimensions is done in domain of profit seeking organizations which revolve around the basic triple constraints assessment and this motivated the researcher to assess the project success dimensions in NGOs, as the criteria for measuring the project success in development sector is totally different from that of the profit seeking organizations. Reference [4] has done a very meaningful research on project success dimensions for development projects and later on [7,18] also build their work mainly on his work. So, the author also decides to choose the same scale for project success measurement.

Table 2: Critical Success Factors

Studies citations	Critical Success Factors/Dimensions
[22]	• Information, • project planning • Procurement route • The Technology use • **Project Design** • Requirements management • Project measurement criteria • Project complexity
[26]	• effective Planning • **Monitoring & Evaluation** • right selection of Project Manager • proper Team Selection • adequate Basis for Project • Top Management Support • User Involvement • adequate & proper Definition of Task • effective Project Management Techniques • Stakeholder Commitment to Project
[7]	• **Monitoring & evaluation** • Coordination • **Project Design** • Training • Institutional Environment
[18]	• Clear understanding of project environment • **Project Design** • Planners, Project managers and, Team members. • Effective consultations with stakeholders • Adequate resources • Continuing support of Stakeholders
[8].	• Understand project complexity. • Access and internal communication • Integrate key elements of the project. • **Monitoring and evaluation** • Control the requirements baseline. • Effective implementation strategy.

	• Less reliance on software as a means to manage the project. • Consistent contractor and customer expectations. • Shared "win-win" attitude.

2.5 How PPMS is related to Project success in NGO sector

There is an intense need to maintain a separate project performance measurement system for monitoring and evaluation especially in not for profit organizations as "project monitoring is crucial because there is need to determine whether the resources provided by the donors are being used efficiently and effectively, whether the projects are within schedule and to determine any problems that may be hampering the implementation. Determination of efficient management of resources is a factor of project monitoring". And project evaluation in NGO's is important as "there is also need to determine whether the set objectives were achieved and extent of achievement of the same plus capture any lessons learned from the implementation of the projects to aid future projects" [23].

Reference [13] is also of the view that there is a sheer contribution of effective monitoring and evaluation in managing the project performance in not for profit organizations as it provides a source of accountability and transparency to the stakeholders and give boost to organizational learning through capturing the lesson learned during execution and later use it for future project designs.

PPMS encourage informed decision making, control through spontaneous reporting and organizational learning continually increasing the performance and accountability and thus ensuring success in NGO's or aid agencies [10]. Hence, for most NGO 'Monitoring' is the regular internal reporting and assessing of project efficiency metrics (measures of the extent to which actual implementation matches planned implementation) primarily to enhance management decision-making. 'Evaluation' is the periodic (typically at mid-term and end-of-project) examination of the project that utilizes information from the monitoring and triangulates this with other information such as beneficiary community feedback in order to analyze the effectiveness of the strategy initially to promote organizational learning.

Hence, all Literature annotated that there is an intense need for monitoring and evaluating the NGO project performance and this can only be possible if a proper performance measurement system exist for this purpose but no study exist that done empirical investigation of the relationship between PPMS and Project success in development sector. Therefore, the researcher would quantitatively assess the impact of project design and M&E on project success dimensions, in order to infer the indirect impact of PPMS on project success. In a nutshell impact of these two variables on project success will ultimately assess the impact of PPMS on project performance.

2.6 Proposed Research model and hypothesis

The proposed research model is formed based on the contemporary research, establishing an empirical link

between the uses of PPMS and NGO project success. This conceptual research model shows that the dependant variable: project success is positively influenced by set of independent variables (M&E and project design). The independent variables are believed to be the variables that have association with the dependent variables in a positive manner. This conceptual model is derived from the conceptual model of [4] to assess PPMS impact on Project success but in NGO settings.

Hypothesis: CIDA report annoted that strong project design [7] and better monitoring and evaluation [19, 10] enhances the chances of project success. And both of these are important aspects/dimensions of PPMS. Hence following hypothesis could be deduced:

H1: Use of PPMS has an impact on project success

- H (1a): Project practitioners perceive that there exists a relationship between M&E and project success.
- H (1b): Project practitioners perceive that there exists a relationship between project design and project success.

3. Proposed Research model

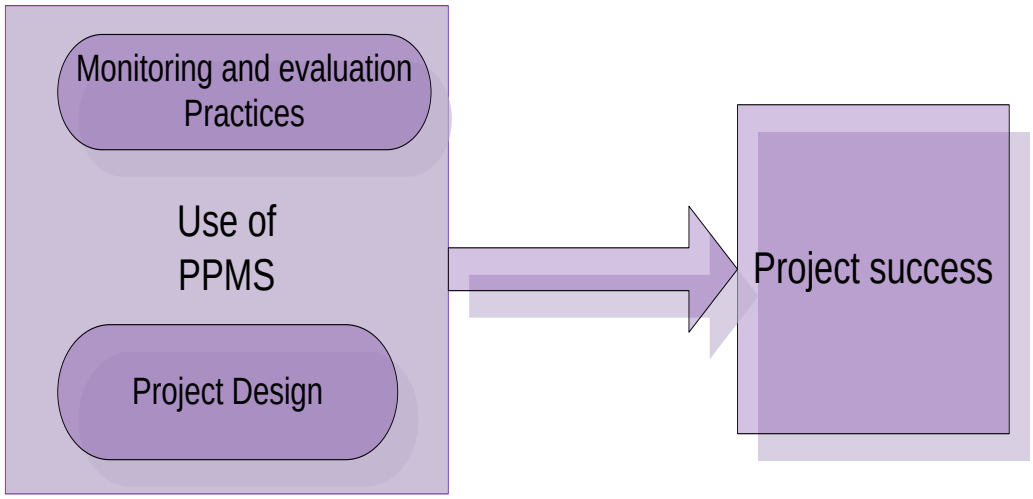

Figure 3: Proposed Research model

3.1 Research Methodology

It entails and justifies the methods and processes adopted to achieve the objectives and answering the research questions. The study adopted a quantitative approach to examine the direct impact of monitoring and evaluation and project design on project success; in order to determine the indirect impact of PPMS on project success, from the perspective of Project Managers/M&E officials. So the quantification of M&E practices and project design is done to determine the use of PPMS in NGO sector. The chapter is divided into three sections including, the data collection procedure, measurement of variables, and data analysis procedure.

Table 9: Summarizing the previous researches regarding the Project Success dimensions.

Author	(Nelson 2005)	(Khang and Moe 2008)	(Amponsah 2010)	(Khosravi and Afshari 2011)	(Joosten, Basten and Mellis 2010)	(Bryde and Brown 2004)	(Diallo and Thuillier 2004)	(Cheung, C.H.Suen and Cheung 2004)	(Ika, Diallo and Thuillier 2012)
Used or Identified	*(used)*	*(identified)*	*(used)*	*(used)*	*(used)*	*(Identified)*	*(Used)*	*(Identified)*	*(Used)*
Project Success dimensions	cost	Meet financial requirements	budget performance	Project cost performance	adherence to budget	cost	Budget	cost	Efficiency/cost
	time	completed within schedule	schedule performance	Project time performance	adherence to schedule	time	Time	time	Efficiency/time
	Quality	meets quality	Functional & technical specifications	Project quality performance	Functional and nonfunctional requirements	quality	Conformance to requirements	quality	
	value	End output accepted and used	Business success	-	Project and product success		profile		
	-	- key stakeholders satisfied	-	-	-	Overall Stakeholders satisfaction	Stakeholders satisfaction		Relevance/beneficiaries & country
		-	-	Project client satisfaction	customer satisfaction	-		Client satisfaction	
	use	-	Impact on customer	-	-	-	impact	-	Impact
	learning		Preparing for future						
		-	-	-	team member	-		Communication	-
	-	-	-	Health safety & environment performance	-	-	-	Environment Safety & health	-
	-	-	-	-	Process efficiency				
	-	-	-	-	-	-	sustainability	-	Sustainability
Industry	Development sector	International development projects	Construction, banking & agriculture	construction	Information Technology	Construction	International development projects	Construction	World bank projects

3.2 Data collection

3.2.1 Population and sample

As the target industry for this research is Pakistani NGOs, specifically working in health sector but most of the NGOs are working conjunctly in health and education sector so researcher is also considering such NGOs in her

target sector. According to a report by [12] and a publication of UNDP total number of registered and active NGOs is around 8,000 to 10,000 and 6% (480) NGOs are working in the domain of health. Using NGO's directory a list of total 80 NGOs is prepared with their addresses and contacts that are listed and are on the board. It was assumed that maximum three responses can be gathered from each NGO, which make up a sample of 220 respondents.

3.2.2 Project Target Audience

Project managers involved in performance monitoring or M&E officials are the target subjects of the study and project practitioners who have the experience of monitoring and evaluating the project through the phases of initiation planning, execution, control and termination on NGO projects are also included in the sample.

3.2.3 Strategy for data collection

A list of 80 NGO's mostly working in Islamabad/Rawalpindi, with their addresses, was prepared using internet resources; an NGO online directory (http://amalteam.com/ngo-list/) and a NGO browsing link (www.ngos.pk). Thereafter questionnaire was not only personally administered but also self-administered. As most NGOs were visited personally to collect data while in some the data was collected using self-administered questionnaires. Self-administered method was chosen because it allows collecting large amounts of data particularly when the responses are needed quickly. Since questionnaires were emailed to respondents, researcher included her contact details in the cover letter. The respondents were requested to contact researcher if they needed any clarification regarding the question wording or response format. In some instances where the questionnaire was personally administered, it helped in minimizing any confusions pertaining to the questionnaire as the author was there to clarify respondent's queries. Minimum of two responses were obtained from a single NGO. This was done because it was assumed that all project managers working in an NGO will almost be using the same project design and monitoring practices, provided by PPMS for measuring the project performance. Getting responses from two individuals from a single NGO helped to deal with biasness which was expected in self-reported data. In some NGOs a web questionnaire link (http://www.keysurvey.com/f/499567/203e/) was provided and Web questionnaire was mainly prepared to have an access to NGOs working in other major cities (Lahore, Karachi and Quetta) just to enhance the sample size and this e-survey data collection strategy is used widely nowadays by the researchers. Even though data was required from Health sector NGOs but most of the NGOs and their head offices are in Islamabad/Rawalpindi, Lahore, Quetta and Karachi and their branches working in many other major districts/cities, it was assumed that all the branches of NGOs are no different from their parent NGO.

The NGO project managers were asked to base their responses on the NGO projects they have worked upon in the last three years. A total of 108 filled questionnaires from NGOs were collected back for data analysis. As NGOs were accessed randomly; a response of 220 filled questionnaires was expected, therefore the response rate was (47 %.) The response rate even though not very good, the sample size was good enough for statistical analysis because according to the accepted rule of statistics the sample size should be ≥ 30, so that the central limit theorem holds.

3.2.4 Questionnaire design

The research instrument has been divided into sections as per the need of the study. The data was collected using a structured survey questionnaire containing separate sections for all the measures and variables mentioned in next section. Section A comprises on the dimensions for control variable, constituting the relevant demographic profile of the respondents, and characteristics of NGOs. Section B comprises on the questions related to project success criteria. Section C constitutes the project design items and section D comprises on all the M&E practices. The survey questionnaire is attached in the appendix. A paragraph describing the objective of the study was added at the beginning of the questionnaire. Respondents were made aware of their voluntary participation and confidentiality measures being undertaken. All variables of interest were subjectively measured using Likert scale as ordinal scales with choices are the most appropriate methods to collect the stakeholder's perception [24] and it is considered as most valuable tool in Project management to measure the perceptions

3.3 Measures

Two independent and one dependent variable is involved in the current research study and detail of these measures is stated below:

Use of PPMS

The researcher is assessing the impact of PPMS on NGO project success; by determining the impact of M&E and project design on project success therefore, the quantifications of both direct measures (M&E and project design) were done as follows.

3.3.1 Monitoring and evaluation practices

This list of M&E practices was prepared using existing literature on M&E practices and PMBOK Guide. It was a random list of all project management M&E practices that can be performed, which totaled up to 26 M&E practices. This list of 26 M&E practices was already academically verified from two project management academic professionals therefore, it is assumed that these standardized project management M&E practices are equally applicable on all organizations either profit or nonprofit.

Pilot study of the M&E practices for a cross Validation by NGO professionals:

It is good to attest the structured questionnaire through a pilot study before the actual data collection, in order to test the validity of the research instrument [25].So the list was further validated by a small pilot study. The questionnaire was sent to 2 NGO project managers and 1 M&E official through emails, who had more than 5 years of experience of managing and monitoring NGO projects. Two of them were PMP (Project Management Professional) certified which made the response easier. The purpose of this validation process was to remove all those practices from the list which were not at all relevant to the NGO sector. This was important because the literature review showed that there could be difference in practices among industries. However, the validation

process did not lead to exclusion of any M&E practice, probably because all M&E practices are followed and only the extent to which they are practiced varies across NGOs.

Final instrument

After validating, the final list of 26 M&E practices was used for data collection. A 7-point Likert type scale from '7-Always' to '1-Never' was used to measure the frequency of use of each M&E item in projects they have dealt in last 3 years. This is similar to the approach used in many studies earlier.The list of M&E practices is attached in the appendix 1: Questionnaire (section D).

3.3.2: Project design

The instrument used by Lavengon et al for measuring the project design on 5 items was used and internal consistency of their scale (0.81). Afterwards this scale was further extended by including five more items deduced from a manual on project design for development projects as used by Gawller and a total of ten item scale is devised for measuring the project design variable and respondents were asked to rate them on a 7 point Likert scale, those items are also mentioned/listed in appendix 1: Questionnaire, in (section C).

3.3.3 Project Success

Project success was subjectively measured through the 10 point scale used by [16]The internal consistency of the project success construct was found to be (0.82) in their research. In literature review Table (3) indicates that these measures were widely used in literature for judging the success of development projects. Project success construct was quantified on 10 dimensions (Cost, time, objectives, sustainability, Impact and beneficiary satisfaction, Conformance to requirement, funding, reputation and profile) and were further grouped in 3 macro dimensions(Project management success ,impact and profile) then measured on a 7-point Likert type scale, where 7 represented "Always" and 1 represented "Never". Respondents were asked to indicate that how often the mentioned project success criteria were met on the projects they have dealt with. The project success measures are included in the appendix 1: Questionnaire (section B).

3.3.4 Demographic/Control variables

Various demographic variables (such as gender, age and academic qualification, professional qualification, working experience, experience managing NGO projects and total work experience) were included in the survey to develop the profile of the respondents. And NGO's characteristics (such as no of districts serving, organization size, sector dealt) were also considered. Later on these all variables were utilized as control variables in order to check that either these variables affect the results or not.

3.4 Data analysis procedures

The data analysis procedure started with data compilation, screening and using descriptive statistics to analyze the demographic profiles of the respondents, assessment of reliability of measures involved and then in order to

test the proposed hypothesis all the statistical analysis in this study was performed using Statistical Package for Social Sciences (SPSS) software.

3.4.1 Data screening/preparation

Before the data file was subjected to analysis, the data was carefully screened for missing values, outliers and normality. In the present study, missing values were imputed to avoid inadequate sample size or loss of meaningful data. There were very few missing values (ranging between 1-2 missing values) and no outliers were detected. Tabachink & Fidell suggested that the value of skewness and kurtosis should be within the range of -2 to 2 when the data is normally distributed and study data was found to be within the acceptable range so the researcher further proceeded with the reliability assessment of the measures involved in the study.

3.4.2 Reliability assessment

The next step was to check the reliability of the variables used through Cronbach's alpha (α). This was important before performing any further analysis, because it ensures if the measuring instrument used for each variable has the required internal consistency in order to be used for statistical analysis. A minimum 0.6 value of alpha is valid for early stage research.An alpha value of 0.70 is reliable if scale components are more than 10 (Pallent, 2005).The reliability analysis of the measuring instruments was performed and the results were reported. Reliability analysis was performed both for M&E practices, Project design individually and also for all project success dimensions. Results of reliability analysis of all measures were reported in data analysis section.

3.4.3 Correlation and regression analysis procedure

Once the reliability and validity of all measures was assessed, the relative use of M&E and project design was assessed using their mean scores. Next, correlation analysis was performed between the M&E, project design and project success dimensions, in order to check the strength and direction of the linear relationship. Here all the Project success measures were taken separately which is similar to the approach used by researcher earlier.

Once correlation was performed, the effect of all the demographic variables on the dependent variable (project success) was also assessed using direct linear regression. This was done in order to ensure that they do not affect the results of the study and the variance caused by them in the direct relationship of the regression model can be dealt with. All the categorical variables were converted into dummy variables before analysis.

Later on, hierarchical multiple regression was used to further assess the relationship between M&E and project design and project success and also which independent variable explains most variation in the model and for this purpose researcher would use the composite measures of all three variables under study to run hierarchical regression as Hair et al suggested that summated scales of variables are more valid and reliable.

4. Data Analysis

This section discusses the results of the data analysis procedures undertaken. It provides demographic details of

the respondents, results of the reliability analysis and tabular explanations of the correlation and regression analysis performed in order to answer the research questions and hypothesis.

4.1 Respondent's profile

The demographic profile of the survey respondents is summarized in Table (5). It includes 11 categorical variables; gender, age, academic qualification, professional qualification and job status, tenure with present organization, total work experience, experience managing NGO projects, sector they are dealing with and 1 numerical variable: organization size. Only the relevant descriptive statistics are reported in the table, according to the type of variable.

The results (Table 4) showed that the study sample of 108 health sector NGO project practitioners: project managers 63(58%), M&E officials 36 (34%) and project coordinators 9 (8%), included more males 82 (76%) than females 26 (24 %). Most of the respondents were from the age group of (26-35) years (43%) or from the age group of 18-25 years (27%) and 20(19%) respondents belong to the age group of 36-39 years. Majority of the NGO officials had done Masters 81 (75%).Out of the sample of 108 only 19 (17 %) were PMP certified and there were most 32(29%) who had obtained some other professional qualification. The respondents were hired either on permanent basis 43(40%) or contractual basis 65(60%).

Almost (57%) of the NGOs in the sample are operative just in health sector and rest (61%) are working conjunctly in health and education sector. A number of 32(29%) NGOs are delivering their services in 5-10, (25%) rendering services in almost 10-15 and a proportion of (19%) NGOs are active in more than 15 districts.

The 29% of the respondents had 3-5 years and 26%respondents had a 10 or above year's tenure with the present organization. 39% respondents have 3-5 years, 30% occupied 1-2 years while only 10% have 10 years or above work experience handling NGO projects. The organization they were working in had average of (112) employees. The number of employees was used to represent the size of the organization here.

Table 1: Demographic profile and descriptive statistics of respondent

Categorical variables	Responses	Frequency	Percentage(%)
Gender	Males	82	76%
	Females	26	24%
Age	18-25	29	27%
	26-35	46	43%
	36-39	20	19%
	40-49	12	11%
	50 0r above	1	1%
	Bachelors	19	18%
	Masters	81	75%

Academic qualification	PHD	8	7%
Current role	Project managers	63	58%
	Project coordinators	9	8%
	M&E official	36	34%
Professional Qualification	PMP	19	17%
	Other	32	29%
	None	57	52%
Tenure with present organization(in years)	Less than 1 year	02	2%
	1-2	42	17%
	3-5	41	29%
	6-9	14	25%
	10 or above	09	26%
Total experience(in years)	Less than 1 year	02	2%
	1-2	18	16%
	3-5	32	29%
	6-9	27	25%
	10 or above	29	26%
Experience managing NGO projects(in years)	Less than 1 year	03	3%
	1-2	32	30%
	3-5	42	39%
	6-9	20	18%
	10 or above	11	10%
Job status	Permanent	43	40%
	Contractual	65	60%
Sectors dealt	Health	62	57%
	Education	1	1%
	Both	45	42%
Number of district serving	2-5	28	26%
	5-10	32	29%
	10-15	27	25%
	15 or above	21	19%
Numerical variable			**Mean(S.D)**
Organization size (number of employees)			111.8(129.7)

4.2 Reliability analysis

The results of the reliability analysis are reported in (Table 5). The table also provides the means, standard deviations, values of kurtosis and skewness for the M&E, project design and all three Project success dimensions. Although there is no standards cut off criteria specified for analyzing the reliability but internal consistency of measures could be assessed on SPSS using (Cronbach's alpha's): 0.60 α value has been a generally agreed thumb rule for measuring the internal consistency of a scale with less than 10 items 0.70 for the scale with more than 10 items in it.All variables showed a high internal consistency as the Cronbach's alpha is more than 0.6 and 0.7,however the construct 'use of PPMS' showed the highest correlation between the items, showing that it can be used as a single index. Project performance construct also showed a high internal consistency which shows that it can be used as a single index with three dimensions.

Thus the resulting scales of all variables have demonstrated acceptable reliability and the items of each scale can be averaged together to compute scale composites, moreover the means, standard deviations, skewness and kurtosis values of all variables were within the acceptable ranges, which depicts that data is normally distributed.

Table 2: Descriptive and Scale reliability analysis

Variables	Mean*	(S.D)	Skewness	Kurtosis	Cronbach's Alpha (α)	Items
Use of PPMS						
Monitoring and evaluation	127.62	15.5	0.25	-0.28	**0.90**	**26**
Project design	52.99	6.12	-0.14	-0.52	**0.84**	**10**
Project success					**0.85**	**10**
Project management success	16.24	2.04	-0.12	-0.40	0.63	3
Profile	20.94	3.16	-0.14	0.14	0.74	4
Impact	16.49	2.13	-0.14	-0.33	0.70	3

*Means values are computed on total score of all variables

Figure 4 shows the frequency of use of M&E practices. The figure shows that almost all M&E practices are frequently used in Health sectors NGOs and the most important ones are: 'development of Performance measurements' and 'capturing the lesson learned'. Similarly the frequency of use of various project design practices is presented in Figure 5.

Results (Figure 5) show that all project design essentials are followed frequently in Health sector projects and the most essential ingredient of a strong project design is the 'usage of LFA (Logical Framework Approach)'.

4.3 Correlation analysis

Table 6 shows the results of correlation analysis done between monitoring and evaluation, project design, project management success, profile and impact. Here all the three project success dimensions are taken separately which is similar to the approach used by Diallo and Thulliare while researcher took the composite of M&E and project design as its similiar to the approach used by Amponsah and Ika *et al*, for measuring these two dimesions.

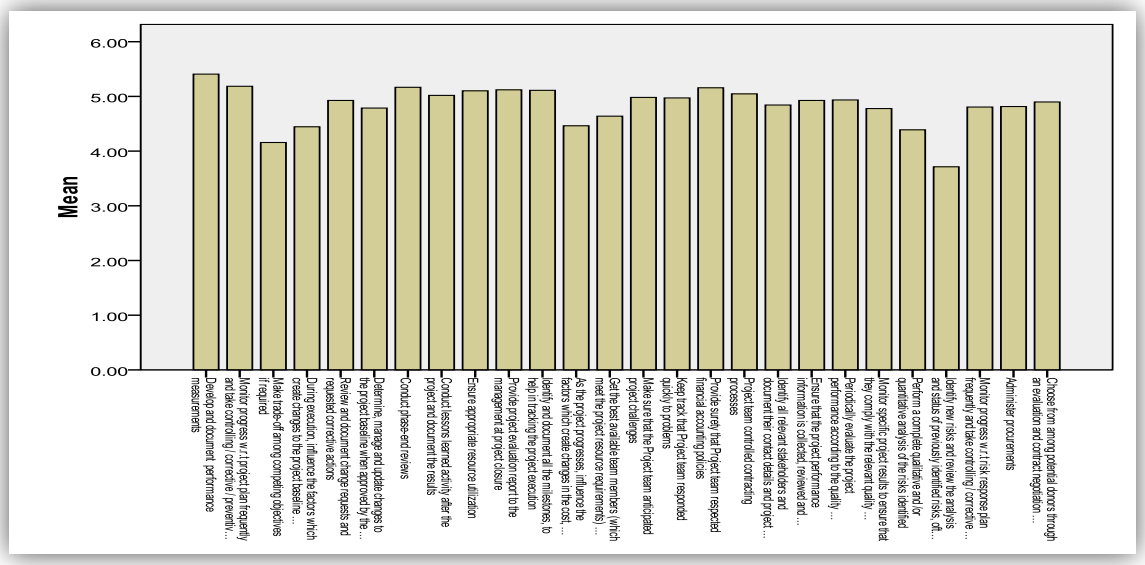

Figure 4: Frequency of usage of M&E practices

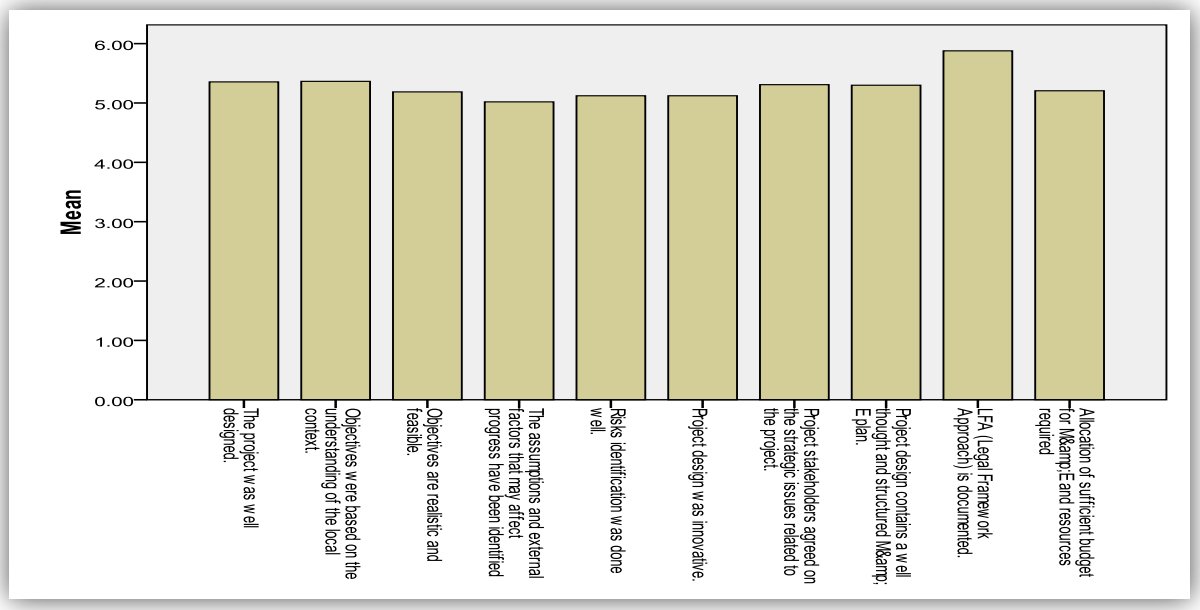

Figure 5: Frequency of usage of project design items

The composite variables of M&E and project design showed a very high correlation between themseleves which again shows that both are linked with one another , therefore they could be treated as one single unit under use of PPMS. In the same way all three project success indicators also showed a high correlation among themselves, which reflects the same information as provided by the internal consistency of project success construct (Table 5). Moreover as both independent variables held strongest correlations with each other (r=0.72 ,p<0.01) which is consistent with the existing theory and practice that it is in the design phase that the monitoring procedures are planned.

Table 3: Correlation analysis

Variables	M&E	Project design	PM success	Profile	Impact
M&E	1				
Project design	.715**	1			
PM success	.494**	.523**	1		
Profile	.639**	.606**	.575**	1	
Impact	.661**	.592**.	.543**	664**	1
Mean	127.62	52.99	16.24	21.01	16.49
SD	15.503	6.130	2.036	3.288	2.133

*significant at 0.05 level (2-tailed)

**significant at 0.01 level (2-tailed)

The correlations between the use of PPMS and and project success measures provide a detailed view that use of PPMS for project designing and monitoring and evaluation relates with project success as suugested by earlier literature. and this impact has been further assessed using appropirate multiple regression techniques.

4.4 Regression analysis

Regression analysis was done is two phases. In phase one linear regression analysis is done using control variables. In second phase hierarchal regression was done in order to check that which variable is contributing most to the outcome variable.

Phase 1: Regression analysis using control variables

(Table7) shows the results of regression analysis conducted using the demographic profile of the respondents and NGOs characteristics as controlling variables, M&E and project design practices as independent variables, and overall project success, as dependent variable. Considering project success as a single index has been an approach commonly used in the literature.

The results of regression between control variables and project success depicts an insignificant impact of control variables on outcome variable as *p* value of all control variables is greater than 0.05, which means there is no

significant relationship between any control variable and dependent variable. Even after adding M&E practices and project design in the model, control variables do not account for any significant variation in the model. However regression analysis shows that it's not only the project design that significantly affects overall project success ($\beta = 0.29$, $p < 0.01$) but also M&E ($\beta = 0.51$, $p < 0.01$). Moreover, Control variables together explain (35%) variations while project design and M&E collectively explain (32%) variation in the project success. The standardized regression path values are reported in the (Table 7).

Table 4: Direct path regression analysis using control variables

Variables	**Overall Project success β(t)**	
	Step 1	Step 2
Respondents profile		
Males	-0.13(-1.16)	-0.08(-1.01)
Age in years		
18-25	-0.41(-0.84)	-0.23(-0.63)
26-35	-0.42(-0.81)	-0.07(-.018)
36-39	-0.28(-0.68)	-0.08(-0.27)
40-49	-0.12(-0.36)	-0.11(-0.45)
Academic qualification		
Bachelors	0.43 (1.90)	-0.06(-0.38)
Masters	0.51 (2.22)	-0.05(-.030)
Professional qualification		
PMP	0.08 (0.65)	-0.11(-1.25)
Other	0.13 (1.10)	0.06 (0.63)
Current role		
Project managers	0.34 (1.48)	0.01(-0.01)
M&E officials	0.31 (1.49)	-0.03(-0.21)
Tenure with present organization(in years)		
less than 1	-0.14(-1.01)	-0.15(-1.45)
1-2	-0.23(-0.86)	-0.05(-0.28)
3-5	-0.48(-1.80)	-0.10(-0.50)
6-9	-0.20(-1.22)	-0.13(-1.08)
Total work experience(in years)		
Less than 1	-0.29(-1.35)	0.03 (0.22)
1-2	-0.17(-0.89)	0.01 (0.02)
3-5	-0.29(-1.62)	-0.19(-1.43)
6-9	-0.21(-1.47)	-0.08(-0.68)
NGO working experience(in years)		
Less than 1 year	0.41 (1.92)	0.09 (0.53)
1-2	0.24 (0.77)	0.14 (0.63)

3-5	0.22 (0.67)	0.06 (0.23)
6-9	0.09 (0.43)	0.15 (0.97)
Job status		
Permanent	0.03 (0.25)	0.05 (0.61)
Sector of operation		
Health	-0.56(-1.05)	-0.06(-0.15)
(Health and education)Both	-0.52(-0.97)	-0.01(-.040)
Operating in Districts		
2-5	-0.24(-1.52)	-0.19(-1.65)
5-10	-0.06(-1.52)	-0.07(-0.72)
10-15	-0.05(-0.49)	-0.01(-0.17)
Organization size	-0.07(-0.38)	-0.19(-2.13)
Project design		0.29**(4.42)
M&E		0.51**(3.63)
R^2	0.35	0.67
Change in R^2		0.32
F change		36.25**

*significant at 0.05 level (2-tailed)

**significant at 0.01 level (2-tailed)

Step 1: individual impact of control variable on project success

Step 2: combined impact of control variables and independent variables (M&E and project design) on project success

Phase2: Hierarchical regression analysis using composite variables

Table 8 shows the results of the hierarchical regression performed according to Ika *et a*l, method, here composite measures of M&E, project design and project success have been taken. Hierarchal regression analysis was performed to analyze which independent variable is the best predictor of the outcome variable. In step 1, M&E was entered first. M&E shows a direct significant relationship with overall project success (β =0.70, $p< 0.01$) and explains 49% variance in project success ($R^2 = 0.49$). Project design was entered in step 2. The results show that project design explains an additional 6% variance in project success ($R^2 = 0.06$) and has a significant positive relationship with project success (β =0.36, $p< 0.05$). Together, both variables M&E and project design explain 55% variance in project success. M&E, however is a stronger predictor (β =0.46, $p< 0.05$) of the outcome variable as compare to project design (β=0.35, $p<0.05$). Thus, according to the internal NGO officials M&E practices influence more to project success as, compare to the project design.

5. Discussion and Implications

The study shows that PPMS is indeed being used for M&E and project designing in NGO projects, which is affirmative sign. Although it is found that the use of the system is more focused on M&E then the project

designing (Table 8) and this is because project design entails just to the initiation phase of Project life cycle while Monitoring & Evaluation is done throughout the project life cycle. That's why the respondents depicted that M&E practices were having the most impact on project success than project design, Thus project design and M&E both are given the most importance at both organizational and project level. Our study provides empirical support to the relationship between major Uses of PPMS (project design and M&E) and project success (H1), which has already identified in the literature. The results depicts that there exist a positive relationship between project design ,M&E and project success which is in consistence with theory/literature and thus affirming the hypothesis of the study.

Table 5: Heirarichal /Step wise regression analysis

	Step 1 β(t)	**Step2 B(t)**
Constant	(4.08)**	(3.01)
Project design	0.67 (9.44)	0.36 (3.82)
M&E		0.46 (4.68)
R^2	0.49	0.55
Change in R^2		0.10
F values	87.7**	65.3**
Change in F		23.9**

*significant at 0.05 level (2-tailed)

**significant at 0.01 level (2-tailed)

Step 1: Predictor=Project design, outcome variable=Project success

Step 2: Predictors=Project design and M&E, outcome variable=Project success

The results also showed that the demographics of the respondents do not affect the relationship between independent and dependent variables Therefore this study emphasizes the importance of using PPMS not only for project designing but also for M&E in NGO projects irrespective of your age, qualification or experience etc. Furthermore, it is not just M&E and project design having a relationship with project success but also highly correlated with each other (Table 6) because monitoring and evaluation practices are first design and listed in project design during the planning process. The correlation performed between independent variables and project success (Table 6) highlighted a number of significant relationships, again emphasizing the importance of having strong project design enlisting and then exercising M&E practices not only at project level but also on program and at organizational level.

Hence, there hardly exist a single study in literature which has identified a quantitative link between PPMS and project success this study has been helpful in quantifying and identifying that use of PPMS may lead to improvement in NGO project success rate if properly implemented. It has also emphasized the importance of ensuring the use of standardized M&E and project design practices on NGO projects in order to meet the project, program and overall portfolio development goals. This stance should be considered not only at project or program level but on organizational Strategic level.

6. Conclusions

(PPMS) has gained importance and many studies have proven the positive affect of deploying formal PPMS for project designing and monitoring and evaluating the performance of projects. This study has examine the extent to which M&E and project design activities are taken seriously in development sector, in order to evaluate the indirect impact of PPMS on NGOs projects, as NGOs has a sheer importance in development of civil society. Moreover, the affect of these practices on NGO project success has also been discussed.

A validated list of standardized M&E and project design items for NGO industry was established in order to answer the research questions. Data was collected from NGO project managers and M&E officials, through a questionnaire based survey. Thereafter, correlation and regression were applied on the data. The results showed that 1) M&E practices are positively correlated with project success dimensions 2) Project design is also positively correlated with all project success measures 3) M&E contributes more in enhancing the project success rate as compared to Project design, in NGO sector of Pakistan. So it could be concluded that PPMS is also positively correlated with project success. M&E is showing most variations in the model which indicates that the main focus of PPMS should be monitoring and evaluation, which is consistent with the theory and practice.

7. Limitations and future research

The survey done in data collection process was based on self-reported data, which reflects what people say happened, not what they actually did or experienced. Thus, this may have led to bias in the study. Furthermore, as it was a cross-sectional study, cause and effect relationship could not be studied. Longitudinal field study could have been an alternative, in which objective measures of different variables could have been taken at different intervals of time. But this process was time consuming and it could have been become more difficult if NGO which were perused practiced strict confidentiality measures. In future a longitudinal study can be performed, in order to further examine the impact of PPMS on NGO projects. Moreover a qualitative case study of a single large size NGO for configuring the design and use of PPMS could also be another future research alternative.

The time frame to conduct the study was limited so this also affected the sample size. As this study was limited to Health sector NGOs, in future, others sectors of Pakistani NGOs can be accessed to get a better idea of what is being done on NGO projects nation-wide or either same findings are replicated in other sectors. Last, but not the least as this study has taken the perception of internal stakeholders only; so, in future same study could be replicated from the perspective of donors to get a more realistic view of the picture.

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