



Application of project scope management practices on project success among telecommunication organizations in Nigeria

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Abstract

This study examined the application of project scope management practices on project success employed by telecommunication organization in the implementation of Information and Communication Technology (ICT) projects. The study adopted primary data source obtained with the use of questionnaire on a total of three hundred and seventy five (375) respondents which include one hundred and twenty five (125) project sponsors, one hundred and twenty five (125) project managers/coordinators and one hundred and twenty five project team members on ICT projects. Data collected were analyzed using both descriptive and inferential statistics. The result revealed that the major project scope management success criteria were customers satisfaction (mean = 4.30, SD = 0.78) and customers expectation (mean = 4.22, SD = 0.62). However, other success criteria which are less critical include; Resource Allocation (mean = 3.56, SD = 0.63), Project Duration (mean = 3.51, SD = 0.70), Project Costing (mean = 3.69, SD = 0.58) and Project Quality (mean = 3.58, SD = 0.87). The result of regression analysis also showed that four (customer expectations / $\beta = -.663$, $p = .000$, customers satisfaction/ $\beta = .852$, $p < 0.05$, resource allocation/ $\beta = 1.055$, $p < 0.05$, and project duration/ $\beta = -1.086$, $p < 0.05$) out of the six (6) indicators used had significant impact on project successes in the selected firms at 0.05 level of significance. It was concluded that the project success criteria of the firms were generally satisfactory and very satisfactory with the implementation of project scope management practices.

Keywords: Project Scope Management Practices; Project Success; Telecommunication Organizations

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1. Introduction

The application of project management in the Telecommunication industry has evolved in the last few decades. Project management is embraced in the industry to proactively manage telecommunication projects such that expected outcomes (products or services), will fulfill the purpose upon which they are embarked upon. Several organizations in the industry do face challenges as they implement these projects even with secure procedures and practices to ensure success. However, more efforts have been made in identifying and applying procedures, practices, standards, structures and methodologies towards achieving success in ICT project implementation management in the Telecommunication industry.

Project scope management is the process of defining what work is required and then making sure that all of that work and only that work is done. Project scope management involves planning, creation of work breakdown structure and verification and control of project scope (PMBOK, 2013). Ogunberu, Olaposi and Akintelu (2016) substantiates that the major project scope management practices employed by telecommunication firms were define project scope, create work breakdown structure, verify scope, and control scope. A project scope statement is critical for obtaining support because it gives sponsors confidence that the project objective is understood and will achieve its set goals and objectives. Project scope definition and management involves understanding, documenting and implementing requirements that are needed to fulfill project goals and objectives.

Defining a project scope is the first step in successfully managing a project. It is important to ensure that all the work required to achieve project objective are considered and well-articulated before project commencement. Scope definition is perhaps the most important part of the upfront process of defining a project as it helps to clearly describe the logical boundaries of the project. Where the deliverables and the boundaries of a project are not clearly defined, the chance of a project success is zero. This is a major reason why many Telecommunication projects fail to achieve set goals and objectives (Avison and Torkzadeh, 2009)

Important elements to successful and complete scope definition for an information and communication technology project include; an understanding of the business requirements, understanding of the business work processes, workflow and dependencies, appropriate knowledge of the solution required with proper gap analysis conducted that will lead to a detailed work breakdown structure (Nickolett, 2007).

Once the project scope is not properly defined at the beginning of projects, the likelihood of failure (lack of customer satisfaction) is high. Telecommunication organizations are now faced with the challenge of ensuring success in project execution and appropriate scope definition to meet requirements, satisfy sponsors then fulfill project goals and objectives. With the increasing competition and dynamism in the Telecommunication industry and also the need to improve upon cost savings and maximize profits, effective scope management is the most important factor that affect project success or failure (Avison and Torkzadeh, 2009). To ensure profitability, better return on investment and continued market share, Competitive advantage, Complex project scope statement, Client demand and Return on investment must receive adequate attention when implementing project scope management practices by telecommunication organizations in Nigeria (Ogunberu et al., 2016). Hence, the need to provide information on the impact of Project Scope Management Practices on Project Success among Telecommunication Organizations in Nigeria.

2. Literature review

A Project is a temporary endeavour undertaken to create a unique product, result or service. The temporary nature of projects indicates that they must have a definite beginning and an end date for completion. The end date of the project is reached when the project's objectives have been achieved or when the project is terminated due to unfulfilled objectives or when the original need for the project no longer exist (PMBOK, 2013). A project can create; a product such as a component, another item or an end item in itself; a capacity to perform a service or; a result such as an item or a document usable for the purpose which it is intended to perform. A project is made up of a group of interrelated work activities that are limited by the project boundary (scope), available budget for the project and duration (schedule) within which the project is expected to be delivered, to deliver capital assets (project deliverables) needed to achieve the strategic goals of an organization (Construction Project Management, 2006). All projects share common characteristics which include; projection of ideas and activities into new endeavours, elements of risks and uncertainties that could lead to completion delay on events and tasks. Project management helps to predict as many of these dangers and problems and plan, organize and control these activities so that projects are completed successfully despite these risks (Lock, 2007).

2.1. Project types

Projects come in all sizes and types, with their monetary value ranging from a few thousands to several millions. With this differing shapes and sizes, they all possess consistent characteristics which include; uniqueness of purpose, temporary nature, progressively elaborated, allocated resources, assigned project sponsor and a measure of associated uncertainty or risk (Lock, 2007).

However, regardless of the size, type or value, a project is an investment in an organization's future and this investment's outcome can either be positive or negative on the organization's ability to produce profit. Badly conceived and poorly managed projects will almost certainly guarantee a negative effect on an organization's productivity and a continuous succession of such projects will eventually lead to the organization's failure as a whole. Projects that are however well conceived and managed will enhance the organization's profitability and competitive advantage (Pinkerton, 2003). The principal identifying characteristic of a project is its novelty. It is a step into the unknown, fraught with risk and uncertainty. No two projects are ever the same: even a repeated project will differ from its predecessor in one or more commercial, administrative or physical aspects. Projects can be broadly classified into the following types; engineering projects, manufacturing projects, IT projects and scientific research projects (Lock, 2007).

2.2. Project phases

In order to effectively manage the completion of major deliverables, phases are created as divisions to allow segmentation of projects into logical subsets for ease of management, planning and control. These phases are mostly completed sequentially or sometimes they overlap. A project phase is usually concluded and formally closed with a review and approval from management to determine the completeness and acceptance of its

deliverables before proceeding to the next phase or close the project outright. However, the need for the phase, the number of phases and the degree of control applied depend on the size, complexity and potential impact of the project. All project phases have similar characteristics which include the fact that the close of a phase ends with a transfer of work product as the phase deliverable; the work has a distinct focus that differs from any other phase and that the primary objective of the phase requires an extra degree of control to be successfully achieved (PMBOK, 2013).

There are different relationships existing within project phases. These are mostly influenced by factors such as project type, duration, complexity, industry, organization, policies, procedures, practices and so on. These relationships include a sequential relationship where a phase can only start when the previous phase is completed (it reduces risks but eliminates options for reducing project duration); Overlapping relationship where the phase starts prior to completion of the previous phase (it may increase risk, rework but can shorten delivery duration) and iterative relationship where only one phase is planned for at a time and the planning for the next phase is carried out as work progress on the current phase (PMBOK, 2013). It is mostly used in highly progressively elaborated projects such as scientific research projects (Lock, 2007).

2.3. Project constraints

Project constraints are anything that can either restrict the actions of project team or dictates their actions (Heldman, 2009). The project triple constraints are primarily scope, time and cost while the enhanced constraints include time, cost, risk, scope, quality, resources, customer satisfaction (Mulcahy, 2009). The triple constraints work in tandem with each other implying that a change in one directly affects the other two. Time constraint is usually presented in the form of enforced deadline from senior management within which the project is expected to be completed. Budget or cost constraint limits the project's ability to utilize funds on the project. It has a potential of restricting the project scope. Scope elements define the deliverables and the boundary within which the project will be implemented. Quality constraints are restricted by the specifications of the product or service and also the expected standards required. Resource constraint deals with availability of resources (both internally to the project team and externally to other supports required for project execution) for project execution in terms of required skills, quantity, experience and so on (Heldman, 2009).

2.4. Project Management

Project management is the application of knowledge, skills, tools and techniques to project activities to meet and satisfy the project requirements. This is achieved through the application of logically grouped processes and procedures, identifying requirements, needs, concerns, customer expectations and balancing competing project constraints, limitations and project boundaries to achieve project objectives that fulfill expected quality standards and stakeholder expectations (PMBOK, 2013).

Project management is quite essential for a more efficient telecommunication project implementation and service delivery process that minimizes the risks of cost overruns, schedule slippages, quality improvement and increases the chances of success. In particular, project management aids in assessing the value of the

project implementation and provide proactive guidance, control and coordination on the conduct of the projects implementation with objective metrics to answer concerns that are related to doing the right things, the right way and getting them done well to achieve desired benefits and meeting up with expectations (PMBOK, 2013).

In other words, project management supplies tools to circumscribe the scope or boundaries of the project and any changes to the project. It defines and maintains communication links across organizational and occupational boundaries. It anticipates risks, uncertainties and measures progress and the quality of work delivered within expected duration and project constraint.

Project management deals with tracking process execution including developing workable schedule, financial reporting model for the project, tracking of efforts against plan, managing costs against budget, status reporting and so on. It involves clearly defined boundaries, input and output with activities ordered in precedence of time and space. There must be a recipient of the result of the project being managed, that is, the customer and the project must have defined values being added (Passenheim, 2009).

In large scale ICT projects implementation among telecommunication firms, a high degree of coordination, organization and relationship building is required in order to ensure successful delivery of project expectations. There are usually multi-layered stakeholders who must be heard, understood and their needs satisfied. It is important that effective coordination and collaboration among the organizations' essential groups are known and well managed. These groups include; functional heads, heads of IT infrastructure, administrative personnel, customers and consumers of the end products of the project. In summary, effective stakeholder management is crucial for ICT project management to ensure adequate results are achieved.

2.5. Importance of project management in telecommunication projects

The implementation of information and communication technology projects especially for development in the telecommunication sector had been on the increase over the years. However, these projects have been recording high failure rates, possibly, due to poor project scope, design and management. Project sponsors, project managers and project team members must understand the processes and methods involved in managing projects in order to improve upon success rates (United Nations, 2010).

Among telecommunication firms, managers of projects (sponsors, project managers, team members and other stakeholders) must see project management as a method, discipline and a process that has a set of tools for planning, implementing, maintaining, monitoring and evaluating the progress of project tasks and activities in order to accomplish organizations' goals and objectives (United Nations, 2010). Top managers who plan to introduce the project management discipline in telecommunication projects, or who wish to improve existing project performance, must pay attention to socio-cultural background of team members, organizational structures in place, experience and so on. Project management demands quality information, discipline and goal-orientation and requires team-working skills, rather than rigid functional divisions. In summary, key factors to consider as project management elements in ICT projects include; people, process and technology.

The people are to be developed, managed and improved upon so that they can effectively manage the processes and activities involved in implementing telecommunication projects. The project manager must understand the roles and participation of the people on the project including stakeholders and beneficiaries. Their expectations and general psyche must be well managed through efficient stakeholders' analysis and documentation. This will help, a great deal, in ultimately meeting up with their expectations since they are the ultimate consumer of the product, result or service of the project.

A well designed procedure and strict adherence to this procure helps the project team to effectively manage ICT projects including Telecommunication projects. Following such laid-down approved procedures usually help to discover potentialities and enhance capabilities or competencies of project team members. Process re-engineering are crucial to the implementation of ICT projects in order to eliminate redundancies and improve upon the way projects are implemented (United Nations, 2010). This is achieved through the implementation of project management in projects execution by telecommunication firms.

With flexible project teams and resources focused on the needs of the enterprise, project-based planning and implementation enables the alignment of corporate effort with corporate strategy. Project Management does not only help to accomplish this goal but it also helps to develop those qualities of initiative and effectiveness that senior management must have if it is to survive in the future.

In summary, given the rapid changes in the Nigerian information and telecommunications industry, with many companies going under, and others struggling to survive in a newly competitive field over recent years, it is critical that all projects be as successful as possible to further the business of the company. At the same time, the industry has recognized that the business models must change, and the products as well as the services they offer must reflect the new technologies, the new industry players, and a new approach. Successful development in this environment depends on very strong project management along with strong technical, business and marketing skills. This can happen only if standard Project Management techniques are applied within the sectors' projects, and also if the teams maintain their focus on the environment in which the project is being performed.

The use of proper project management is rapidly becoming a requirement in many telecommunications oriented companies and environments. Use of Project Management tools and techniques can make the difference between meeting or not meeting project scope, budgetary and time requirements. Meeting these constraints is becoming more and more critical and the competition escalates, and companies compete for shares of the market. Sometimes an even more significant problem is the customer satisfaction which is closely related to producing what the customer wants, within the required cost and time. Or more accurately, producing what the customer really wants (Avison and Torkzadeh, 2009).

2.6. Project scope management

Project scope management includes all those practices that are necessary to ensure that the project is restructured to only the required necessary work in order to achieve a necessary product, service or result. Scope means what is needed to be done and scope management is the managing of what needs to be done (Wysocki, 2009).

The scope of a project can also be defined in terms of the functionality which the project is intended to provide, attain or span. A project scope statement defines, in writing, drawings and pricing figures, the intended span of work expected and to be provided for in plans for a new facility. The scope statement will also spell out expectations about any eventual extensions, and also include any contingency policy as well. The scope statement is a clear communication of the extent and functionality of the project, between the proposers, sponsors, designers, implementers and the users or purchasers. In order to be explicit as to the meaning or extent of various systems, scope may be further described in terms of cost budget figures. Such budget figures needs to be expressed in enough detail to provide the basis for a cost control system and for evaluating any subsequent changes to that scope.

Where the scope is not properly defined at the beginning of projects, the likelihood of failure is high and with the increasing competition and dynamism in the telecommunication sector and also the need to improve upon cost savings and maximize profits, telecommunication firms are now faced with the challenge of ensuring success in projects execution through the implementation of effective project scope management on projects which is the most important factor that affect success or failure (Avison and Torkzadeh, 2009).

Achieving project success in the Telecommunication industry implies meeting up with the long term goals and objective for which the project is set to achieve. In order to ensure project success, Telecommunication projects should be deployed to meet specific set of business requirements such as increase in efficiency, process improvement, reduction in operational and business cost, increase in revenue and quality which are targeted at meeting up with the desires and expectations of the customer or owners of the products of the project (Ojiako et al., 2005).

The delivery of innovative ICT projects in the telecommunication sector specifically, is failing to meet business and user requirements or bring return on investment due to factors such as cost overruns, time overruns, poorly defined scope and meeting up with expected features and functions to satisfy project stakeholders. It was discovered in the CHAOS Manifesto 2012 of the Standish Group (Table 1), that in 2012, 39% of all projects (ICT projects inclusive) succeeded i.e. were delivered on time, on budget with required features and functions. 43% were challenged (late, over budget with less than required features and functions). 18% failed (cancelled prior to completion or delivered and never used).

An increase in project success was observed over the years. This increase was as a result of several factors; methods, skills, costs, tools, decisions, optimization, internal and external influences and team chemistry and also advances in the understanding of the skills needed to be a good executive sponsor. Paramount amongst this is the increased awareness and introduction of project management as a profession and trained project management professionals have proven to be very valuable for increasing success rates during these years. The success rate of implemented projects is shown in Table 1. ICT projects success or failure in developing countries can be categorized into three depending on the degree of success (Heeks, 2002). First, is the total failure of an initiative never implemented or in which a new system was implemented but immediately abandoned.

Table 1. Project Implementation Success Rate

	2004	2006	2008	2010	2012
Successful	29%	35%	32%	37%	39%
Failed	18%	19%	24%	21%	18%
Challenged	53%	46%	44%	42%	43%

Source: The Standish group, (2013)

Second is partial failure of an initiative, in which major goals are unattained or in which there are significant undesirable outcomes.

Associated with partial failure is the sustainability failure where an initiative first succeeds but is then abandoned after a year or so. The last is success of an initiative where most stakeholders attain their major goals and do not experience undesirable outcomes.

Appropriate specification and definition of project stakeholders' expectations goes a long way in determining project success and this is mainly achieved through proper scope management. A scope statement defines the project and product deliverables goes a long way towards establishing project goals and success. It becomes a useful means of communication with all stakeholders; team members, users and sponsors.

A well-defined project scope is important and its outcome will lead to effective allocation of resources and plan expenditures, it also save time and energy by eliminating features that can introduce little value to project objectives. However, the process of defining scope can result in problems of the extreme if not well managed. Project definitions that are too broad may lead a team into a morass of connecting issues and associated problems beyond the team's resources. Project scopes that are set too narrow could restrict teams from finding root causes. The tendency is to err on the side of making the scope too broad rather than too narrow (Mulcahy, 2009).

2.7. Project success in the telecommunication sector

Achieving project success among telecommunication firms implies meeting up with the long term goals and objective for which the project is set to achieve. Important parameters for these goals and objectives include return on investment (ROI), profitability, competitive advantage and improved market share. To achieve project success based on these expectations, variables such as; realistic goals, competition, project objectives and deliverables, customer satisfaction, human factors, commitment from management, perceived usefulness to content developers, staff members with responsibility to project, profitability, third parties, market availability, project management, the nature of how ICT projects are implemented and the techniques to be used on various factors and features including the existing knowledge and ongoing organizational learning, the existence of appropriate management of project information and good project leadership, complexity of the project and technology being employed. Other factors could include project timescales, funding available and risk.

Deployment and implementation of ICT projects among telecommunication firms are not simply a matter of using a technology that works. Considerations should be given to the impact of the procedures and practices of the organization performing the tasks of the project. Deployments should consider meeting up with specific business needs, increase efficiency, introduce process improvement, reduce operational and business overheads, improve upon existing revenue and quality (Ojiako, 2005).

Some of the factors identified with the reasons why ICT projects success rate had been low among telecommunication firms include (a) inability to properly link business value to technical functionality at the requirement gathering stage, (b) unresolved technical uncertainties, (c) inadequate customer needs assessment.

Project success or failure in the telecommunication industry can be easily attributed to a number of factors. Six areas in particular highlight the biggest and most common failure culprits. These are Constituent Alignment, Proactive Risk Management, Performance Measurement, Project Scope Definition and Management, Critical Project Communication and Methodology Usage. Among these factors, Scope definition and management is perhaps the most important.

In situations in which the project has vaguely-written scope definitions; there are problems in gathering user requirements; there is pressure to execute before the project is adequately defined; there is no rigorous scope management, then this is one of the classic cases of project failure waiting to happen. It may sound trite, yet project scope must be clear, concise, and unambiguous. It must be clearly and commonly understood by project stakeholders, team members, and executives alike.

3. Methodology

The study covered two states in Southwest Nigeria namely Lagos, and Oyo states. These states were chosen because they are states where we have the largest concentrations of the telecommunication headquarters in Nigeria (Nigerian Communication Commission, NCC operators' data, 2013) containing details of all existing telecommunication firms in Nigeria.

Twenty five telecommunication firms in Nigeria were purposively visited. These consisted of five (5) Global Systems for Mobile Communications (GSM) firms; four (4) Code Division Multiple Access (CDMA) firms and sixteen (16) fixed/fixed wireless firms. The ultimate goal was to establish the effect of project scope management practices on projects implemented by telecommunication organizations.

A set of questionnaire was administered on one hundred and twenty five (125) project sponsors, one hundred and twenty five (125) project managers/coordinators, and one hundred and twenty five (125) project team members with five (5) projects per organization as the target totaling three hundred and seventy five (375) questionnaires for the effective conduct of this research in Southwestern Nigeria. It elicits information on the impact of project scope management on project success in telecommunication organizations implementing ICT projects. The parameters used include: customers satisfaction, customers expectation, Resource Allocation, Project Duration, and Project Quality. The data gathered were treated and

subjected to analyses using descriptive and appropriate inferential statistics. Inferential statistics such as Regression was used to examine the impact of Project Scope Management Practices on Project Success among Telecommunication Organizations in Nigeria.

4. Results and discussion

Table 2. The impact of Project Scope Management practices on Project Success with the Implementation of Project Scope Management Practices in the Firms

Parameters	Mean	SD
Customer Expectations	4.22	0.62
Customer Satisfaction	4.30	0.78
Resource Allocation	3.56	0.63
Project Duration	3.51	0.70
Project Costing	3.69	0.58
Project Quality	3.58	0.87

Key: mean of 1= not satisfactory, 2= slightly satisfactory, 3= moderately satisfactory.4= Satisfactory.5= very satisfactory.

Table 2 presents the mean rank analysis of the success of Telecommunication projects with the implementation of project scope management practice. The result revealed that the major project success criteria were customers satisfaction (mean = 4.30, SD = 0.78) and customers expectation (mean = 4.22, SD = 0.62). These parameters had the mean rank of 4.00 and above. However, other success criteria were also critical to project success. It is therefore be inferred that the project success criteria of the firms were generally satisfactory with the implementation of project scope management practices.

Table 3 further shows the regression analysis of the impact of project success with the implementation of project scope management practices. The result shows that four (4) out of the six (6) predictors (independent variables) had significant impact on project successes of the selected firms at 0.05 level of significance. The significant factors were customer expectations ($\beta = -.663$, $p = .000$), customers satisfaction ($\beta = .852$, $p < 0.05$), resource allocation ($\beta = 1.055$, $p < 0.05$), and project duration, ($\beta = -1.086$, $p < 0.05$). However, the two (2) variables that have no significance were project costing, ($\beta = -.033$, $p > 0.05$) and project quality ($\beta = .087$, $p > 0.05$). As shown in the summary statistics, the analysis revealed that the collection of the predictors (independents variables) accounts for 65.1% (adj. $R^2 = .629$) of the variance in the outcome variable. The ANOVA on Table 1.4 on the other hand tells that R^2 is significantly different from zero.

Based on the finding of this study on the level of success achieved in the implementation of telecommunication projects, high success rate is achieved on projects implemented with project scope management practices while low success level is achieved on projects implemented without project scope

management practices. It is shown in the table above that the F score (29.282, $p < 0.05$) indicates a significant effect of the independent variables on the dependent.

Table 3. Regression Analysis of the Impact of Project Success Criteria of the Firms with the Implementation of Project Scope Management Practices

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	2.220	.244		9.080	.000
Customer Expectations	-.663	.108	-1.004	-6.145	.000
Customer Satisfaction	.851	.113	1.644	7.555	.000
Resource Allocation	1.055	.167	1.634	6.323	.000
Project Duration	-1.086	.201	-1.871	-5.400	.000
Project Costing	-.033	.051	-.048	-.645	.520
Project Quality	.087	.054	.183	1.595	.114

*Dependent Variable: choice of project scope management practices
Significant at 0.05 level of significance*

Table 5 showed the mean rank result of the analysis on impact of Project Scope Management on project success without the implementation of project scope management practices by the firms. The result revealed that all of the project success criteria had low level of satisfaction. These parameters had the mean rank of below 3.00. It can therefore be inferred from this study that the project success criteria of the firms were of low satisfactory without the implementation of project scope management practices.

Table 6 further shows the regression analysis of the impact of project success without the implementation of project scope management practices. The result shows that three (3) out of the six (6) predictors (independent variables) had significant impact on project successes of the selected firms at 0.05 level of significance. The significant factors include customer expectations ($\beta = .536$, $p = .000$), customers satisfaction ($\beta = -.824$, $p < 0.05$), and project duration, ($\beta = .288$, $p < 0.05$). The remaining variables have no significance with project scope management practices as shown in Table 4.12. The summary statistics revealed that the collection of the predictors (independents variables) accounts for 57.7% (adj. $R^2 = .553$) of the variance in the outcome variable. The ANOVA table on the other hand tells that R^2 is significantly different from zero. It is

also shown in the Table 4.13 that the F score (24.069, $p < 0.05$) indicates a significant effects of the independent variables on the dependent.

Table 4. Regression Model and ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	11.210	6	1.868	29.282	.000 ^b
Residual	5.998	94	.064		
Total	17.208	100			

a. Predictors: (Constant), Customer Expectations, Customer Satisfaction, Resource Allocation, Project Duration, Project Costing, Project Quality

b. Dependent Variable: choice of project scope management practices

Summary Statistics

R² = 0.651

Adjusted R² = 0.629

Std. Error of the Estimate = 0.25260

Table 5. The Impact of Project Scope Management Practices on Project Success without the Implementation of Project Scope Management Practices in the Firms

Parameters	Mean	SD
Customer Expectations	2.63	1.12
Customer Satisfaction	2.58	0.96
Resource Allocation	2.69	0.73
Project Duration	2.23	1.09
Project Costing	2.49	0.86
Project Quality	2.21	0.92

Table 6. The result of Regression Analysis on impact of Project Success Criteria without the Implementation of Project Scope Management Practices in the Firms

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	t	
(Constant)	3.321	.141		23.603	.000
Customer Expectations	.536	.087	1.384	6.161	.000
Customer Satisfaction	-.824	.091	-1.828	-9.073	.000
Resource Allocation	-.038	.067	-.064	-.571	.569
Project Duration	.071	.038	.180	1.888	.062
Project Costing	-.021	.102	-.042	-.209	.835
Project Quality	.288	.058	.611	4.982	.000

a. Dependent Variable: PSM practice

b. Significant at 0.05 level of significance

Table 7. Regression Model and ANOVA

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	12.146	6	2.024	24.069	.000b
Residual	8.916	106	.084		
Total	21.062	112			

a. Predictors: (Constant), Customer Expectations, Customer Satisfaction, Resource Allocation, Project Duration, Project Costing, Project Quality

b. Dependent Variable: choice of project scope management practices

Summary Statistics

R² = 0.557

Adjusted R² = 0.533

Std. Error of the Estimate = 0.29002

5. Conclusion

The result revealed that the major project scope management success criteria were customers satisfaction (mean = 4.30, SD = 0.78) and customers expectation (mean = 4.22, SD = 0.62). These parameters had the mean rank of 4.00 and above. However, the other success criteria were also critical with their mean ranks

greater than 3.00. These include; Resource Allocation (mean = 3.56, SD = 0.63), Project Duration (mean = 3.51, SD = 0.70), Project Costing (mean = 3.69, SD = 0.58), Project Quality (mean = 3.58, SD = 0.87).

The studies further revealed that the key significant impact of project scope management practices on project success were Customer expectation, Customer satisfaction, Resource allocation and Project duration.

The application of project scope management practices has significantly impacted project success leading to fulfilled customer expectation and satisfaction; better resource allocation and timely project delivery. Telecommunication firms should therefore make it mandatory for scope management practices to be employed in the implementation of all telecommunication projects since low success rates were recorded in projects implemented without scope management practices.

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