

Determining the Critical Success Factors for ICT Project in (Abuja) Nigeria

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Abstract

This paper determined the critical success factors for ICT project in Abuja, Nigeria. Structured questionnaire were distributed to ICT expert handling projects in ICT or ICT related project that are practicing in Abuja, Nigeria for at least for the past ten years. Fifty questionnaires were distributed to each of these organizations Nigerian communications satellite limited, Nigerian Information Technology Development Agency, Nigerian Communications Commission, Ministry of Communications and Galaxy backbone and interviews were conducted with some expert of ICT project and the One hundred and seventy-one completed questionnaires formed the basis of the study and the data obtained were analyzed using Relative Importance Index (R.I.I), Frequency Index and Severity Index. The result from the study shows that executive management support, user's involvement, limited bureaucracy and politics, clear vision and goal, clear statement of requirement, project deliver its functionality etc. are critical for most ICT project.

Key words: Critical success factors, ICT project, bureaucracy and politics, clear vision, delivery of functionality, statement of requirement.

Introduction

ICT Project failures is of great concern worldwide to stakeholders ranging from the project community to the government that sponsors such capital intensive project with little or no return on investment.

Recently the research carried out by The Standish group CHAOS report came up with conclusions that the capital intensive investment of ICT project worldwide has not produced the desired objectives, the reality is that tax payers' money has gone down the drain or the populace is indebted in the events loans are used to finance such projects like in the case of Nigeria where loans and grants are used to finance most of the ICT projects.

Some of such fail ICT project in Nigeria like the National Rural Telephony Project, National Public Security Communication Network System, and National Identity card Project which in one way or the other are unsuccessful or abandoned projects.

In this paper, the research would be looking at detail literature review of factors for failure of ICT projects and come up with some critical factors for any ICT project to succeed in Abuja, Nigeria.

In defining failure in ICT project, failure is generic and must be defined. Failure is usually in terms of project that are late or over budget, an in ability to fully realize the expected benefits or gains the acceptance and enthusiastic support of user and management (Cannon J.A) 1994

It is of understanding to have several degrees of failures, a good number of researchers define four major categories of ICT project failure (Lyytien and Hirschhien) 1987, (Yeo) 2002.

Table 1.0 Showing Categories of failure and description

	Category of failure	Description of failure
1	Correspondence failure	Fails to meet its design goals
2	Process failure	Overrun its budget or time constraints
3	Interaction failure	User maintain low or non-interaction with the project
4	Expectation failure	Does not meet stakeholders expectation

Table1.1 Inventory of some ICT projects in Nigeria

S/N	Project Type(title)	Year of Conception	Project Sum	Completion
1	National Identity Card	2002	=N=80.2B	On going
2	National Rural Telephony	2001	\$200M	Abandoned
3	National Public Security Communication System	2010	\$470M	Not fully completed
4	Broadband Penetration	2012		On going
5	ICT Company	2017	\$1.0B	-----
6	ICT University	2017		Dropped
7	Digital switch over	2006	NEEDS \$1.4B	On going
8	Zinox tech digital hubs	2016	\$25M	-----

Sources: <http://www.thescoopng.com/2016/01/29/cctv/>, the street journal April, 2016, Vanguard May, 2014, allafrica.com/stories/201711090032.html, <https://www.today.ng/tag/digital-switch-over>, www.zinoxtechnologies.com

Methodology

General factors affecting the abandonment and failure or success of ICT project were generated on the basis of related research works of Baker et al (1983), Morris and Hough (1987), Pinto and Slevin (1989), Turner, J.R (1993) and experts of ICT in (Abuja) Nigeria

The general factors of ICT project failure and abandonment or success were itemized in questionnaire and distributed to experts in ICT project implementation that are practicing or have practiced for at least the past ten years in NIGCOMSAT, NITDA, NCC, MoC and Galaxy backbone in Abuja, Nigeria.

Each factor was rated on the scale of 1-4 i.e. from most not important, not important, important and most important in the questionnaire and the respondents were asked to select these factors in the order of importance, also the respondents were asked to rate the frequency of occurrence of each factors according to level of High (3), Medium (2) and low (1.) The data extracted from the questionnaire in which the study is based were analyzed using Relative Importance Index (R.I.I), Frequency rate of occurrence and severity index based on the work of Lim and Alum (1995).

Relative Importance Index

$$R.I.I = (4n_4 + 3n_3 + 2n_2 + n_1) / 4N$$

Frequency Index

$$F.I = (3n_3 + 2n_2 + n_1) / 3(n_3 + n_2 + n_1)$$

Severity Index

$$S.I = R.I.I * F.I$$

Where n_4 = most important

n_3 = important

n_2 = not important

n = most not important

N=Total number of respondents

Table 1.2 Distribution and responses of questionnaires among the ICT professional in their various organizations.

Organizations	Number distributed	Number of responses	Number of distributed %	Total number of responses%
NIGCOMSAT	50	45	20	26.31
NITDA	50	40	20	23.39
NCC	50	26	20	15.20
MoC	50	15	20	8.77
Galaxy backbone	50	45	20	26.31
Total	250	171	100	99.98

Results of the Relative Importance Index Calculations

Table 1.3 Factors for successful ICT Project with their R.I.I and R.I.I Percentages

S/N	Factors	1	2	3	4	R.I.I	R.I.I %
1	Clear vision and objective (Business case and scope)	0	0	2	40	0.988	98.8
2	Executive Management support	0	0	4	38	0.976	97.6
3	Adequate resource and funding	0	1	4	37	0.964	96.4
4	User's involvement	0	1	5	36	0.958	95.8
5	Proper Planning i.e. cost, schedule and time estimate	0	2	5	35	0.946	94.6
6	Delivered to budget on schedule, and on specifications	0	1	7	34	0.946	94.6
7	Project achieves its purpose and objectives	1	3	5	33	0.916	91.6
8	Limited or absence of bureaucracy and politics	0	2	7	33	0.934	93.4
9	Clear statement of requirement	2	2	5	33	0.910	91.0
10	Communication and team work	0	1	10	31	0.928	92.8
11	Leadership	3	4	5	30	0.869	86.9
12	Satisfies the needs of the stakeholders involved	2	3	8	29	0.880	88.0
13	Minimum start-up difficulties	2	6	7	27	0.851	85.1
14	Commercially profitable for the contractor	2	5	9	26	0.851	85.1
15	Competent Staff	2	5	10	25	0.845	84.5
16	Smaller Project Milestone	5	7	5	25	0.797	79.7

Findings from the Analysis of the Relative Importance Index

Findings from the analyzed results shows that out of the sixteen factors listed in the questionnaire the ten of the most important factors that are critical to ICT project completion are shown in the table with the highest R.I.I of 0.988 while the tenth R.I.I is 0.928 , the conclusion therefore is that the respondents agree that most of the factors are distinct except in the cases of delivered to budget on schedule and proper planning have the same R.I.I and that the ten critical success factors for ICT project in order of importance are , clear vision and objective, executive management support, adequate resources funding , user involvement, proper planning ,delivered to budget on schedule and specification, Project achieves its purpose and objectives, Limited or absence of bureaucracy and politics ,Clear statement of requirement, Communication and team work are the first ten most critical success factors to ICT project completion in (Abuja) Nigeria.

Discussion

User's involvement with the R.I.I of (0.958) which can be referred to as client or anyone who at the end of the project could be using the result of the project at the end of it, the need for user consultation and involvement has been found to be increasingly important in reaching the point of implementing project successfully. Manley J.H (1975) found that the point or degree of user involvement in the execution process will cause great variation in their support for the project.

Kolb, D.A and Frohman A.L (1970) sees user involvement as the first in the program to implement any change and it's a necessity of taking into considerations the need of the future users of the project.

Management support having the R.I.I of (0.976) one of the ten factors considered to be critical for any ICT project completion in (Abuja) Nigeria, as stated by Schultz and Slevin (1975) management support for projects or for any implementation is been considered one of the greatest important factor in distinguishing between the ultimate success and failure of that project. Management of project should not only consider management support as means for dishing out authority, direction and support but also the conduit for implementing management goals.

Adequate resource and funding with (0.964) R.I.I value cannot be over looked as a factor that is critical to the completion of any project not only ICT project, for without funding the project might not progress to any stage as funding(cost) is one of the main ingredient in the Triangle of project management.

The factor that was related to the underlying purpose for the implementation of the project is the clear vision and objective with R.I.I of (0.988). Morris P.W.G (1983) noted that the initial stage of project

management should consist of a feasibility decision; are the goals clear and can they succeed? Implementation process of any project should begin with the instruction to start the plan and its objectives. Project clear goals or objective has been found to refer to the condition where goals of the project are clear and understood not by the project team involved only but by the whole stakeholders.

One of the top critical factors is Project Schedule, cost estimate Plans with R.I.I of (0.946). Project schedule and cost estimate plans refers to developing a detailed plan of the required stages of the work implementation process and possible cost estimates of requirement to implement the project. Viewing planning and scheduling and cost estimation as the first step in the project activities and as an additional link to subsequent evaluation of the project activities. The importance of process planning is cannot be limited to breaking down work activity planning it could also aide in formulation, conceptualization, detailing, and evaluation. Schedule and cost estimate plans should be a satisfactory measurement system as a way of judging actual performance against budget and time allowances.

The need for adequate communication having R.I.I value of (0.928) channels plans is extremely important in creating an environment for successful project implementation. Communication is not only essential within the project team itself, but also between the team and the rest of the stakeholders as well as with the client. Communication is not only for feedback mechanisms, but it's a necessity of exchanging information with both clients and the rest of the stakeholders in the project concerning project goals, changes in policies and procedures, status reports, etc.

In the frequency of occurrence of non-consideration in the implementation of ICT project, it's obvious that factor X_1 has been the issue of ICT project for non-clear mission of objective or business case and scope of the project. Factor X_2 immensely contribute to unsuccessful completion of ICT project, the management might not have interest or may not understand the scope of the project and this might make the management lose interest in the project. While factors X_5 and X_6 are proportional to each other, when there is no proper plans in the project all the creeps in project management manifest and can affect the delivery of that project in time and within budget.

Recommendation

The result of the survey indicated that clear vision and objective and executive management support are the two most important factors that are critical to any ICT project in Nigeria, management support can go a long way in making ICT project abandonment mid-way a thing of the past and drastically reduce the incessant unsuccessful completion of ICT project in Nigeria. To overcome lack of management support for every project there should be coordination and working relation between all the stakeholders in the project and the management. The vision and objective of any ICT project should be spelt out right from the start of the project .Its need to be iterated that business case and scope objective is the most essential factor that has much more impact on ICT project because most at times the business case of most ICT project are vague.

Conclusion

ICT project has proven to have higher rates of unsuccessful completion right from the beginning of the project work. When most of the factors mentioned above are not put into considerations for implementing ICT project, the project is likely to be abandoned before it start or mid-way. This work determined the most critical success factors for ICT projects and this factor includes the user's involvement, management support is required and adequate funding is necessary because ICT project are capital intensive by its nature of requirements.

Clear vision and objective cannot be rule out as a factor to be considered because its discovered that most ICT projects that fails don't have clear objective right from the beginning of the project and this leads to abandonment of most of the project mid-way .Planning has proven to be one of the biggest challenge project that fails underwent as its said when we fail to plan properly we have already plan to fail.

In conclusion for any ICT project to succeed to completion most of the critical factors mentioned above has to be put into consideration in the course of the project implementation.

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