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Information And Communication Technology Projects and Nigeria's Academic Libraries: A Design-Reality Approach

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Introduction:

Information and communication technology (ICT) is an umbrella term that includes any communication device or application; it's a technology that unites both computers and communication technology for capturing, processing, storing and transfer of information (Rouse, 2005; Otokunefor, 2014). ICT has become a key tool in acquiring, processing and disseminating knowledge. It has become an imperative tool for measuring development of a nation in the 21st century (Adedoyin, Akinuwesi and Adegoke, n.d). ICT has various forms and roles which it performs in teaching, learning and management activities in tertiary institutions. More so, the advent of ICT and its impact on education, libraries and libraries services have revolutionized the manner information is processed, stored, retrieved and transferred to the library users (Okon & Ogbodo, 2014). However, technologies are a driving force behind much of the development and innovation in both developed and developing countries. As such, all countries must seek to benefit from technological developments (UNESCO 2002 as cited by Ololube, 2007). Owing to this fact, the Nigerian government and other stakeholders in the education sector are devising mechanisms for incorporating ICT into the Nigerian academic libraries. This has taken the form of ICT project. ICT project refers to ICT initiatives that typically results in the development and installation of new software product. ICT project often introduce new hardware, software and/or new product development as part of the project (Dekkers and Forselius, 2007). Several ICT projects have been commissioned, funded and implemented for the purpose of improving the standard of library services in Nigeria, particularly in Federal Universities. The Federal Government of Nigeria through the National Universities Commission (NUC) initiated various projects designed to lunch Nigerian academic libraries into the information global society. Among the projects are National Virtual (Digital) library by NUC, National Virtual library by the Ministry of Science and Technology, UNESCO Virtual Library Pilot Project, Xlib and TINLIB project and so on (Kumar & Kar, 1995; Sani & Tihamiyu,2005; Etim, 2006; Nok,2006; Idowu &Esere,2011; Okon&Ogbodo,2014; Adesanya& Idogwu,2015; and Atanda,2018). While, the above effort is laudable, it is expedient to note that majority of the aforementioned ICT projects initiated by the federal government and its agencies in Nigeria academic libraries are non-existing though, they laid the foundation for the incorporation of ICT into the Nigerian academic libraries, particularly the federal universities. Nevertheless, a critical review of the above identified ICT projects both from observation, discussions and studies shows that majority of these ICT projects by government and its agencies did not see the light of the day. As a result of this, Nigerian academic libraries developed and established their own ICT projects, due to the fact that ICT has radically transformed most of the services provided by a library (Ogunsola, 2011). However, this study focuses on selected ICT projects in five federal universities in South west, Nigeria that will be assessed with the Design-Reality gap model: a monitoring and evaluation tool used to measure the success and failures of ICT4D projects. The Design-Reality gap model according to Heeks (2002), is a monitoring and evaluation tool used to measure the success and failure of ICT4D projects, especially e-government projects. The basis of this model developed by Richard Heeks is the idea that there are two points in any e-government project: the reality, that is 'where we are now,' and the goal of the project, that is 'where the e-government

project wants to get us. The larger the gap between these two points, the more difficult it is to successfully complete the project. The smaller the gap, the higher the chance of success. Heeks (2003) identified 7 dimensions that determine this gap (ICT4D @ Tulane University, 2013). These are: 1. *Information* - Quantity of information, information flow, informal information and information in use by stakeholders; 2. *Technology* - The amount and type of Computer hardware, computer software, telecommunication; 3. *Processes* - information-handling, decision, transaction, and informal processes. 4. *Objectives and Values* - operational staff objectives, senior official and other stakeholders' objectives and values. 5. *Staffing and skills* - staff numbers, technical skills, operational, knowledge and other skills; 6. *Management systems and structures*- the support of the management; 7. *Other resources*: initial investment, ongoing expenditure and time. These dimensions were helpfully summed up in the acronym ITPOSMO. From the review of extant literature, we observe that Design-Reality Gap Model is often used in other countries of the world to assess the success rate of ICT projects. The works of DeLone and McLean (1992), Beynon-Davies (2002) and Heeks (2002) threw a lot of explanations on the applicability of the model to ICT. The first two models deal with ICT/IS in general but Heeks model is for ICT/IS implementation and can be used in explaining reasons for success and failure of ICT projects especially in developing countries. The research model adopted for this study is the Design-Reality gap model developed by Heeks (2002). It is therefore imperative that the ICT projects could be evaluated using the Design-Reality Gap Model.

Studies have shown that several ICT projects have been initiated in the Nigeria academic libraries with vast literature concentrating on the role, need, feasibility, challenges and their implementations (Etim, 2006; Nok, 2006; Okon and Ogbodo, 2014 and Idowu and Esere, 2013). However, the rate of success and failure of these ICT projects have not been identified or stated in previous studies. Heeks (2002) asserts that there is difficulty in determining what proportion of ICT projects in developing countries falls under success, partial failure and total failure due to lack of literature on evaluation as well as focus on case studies. This is true as case studies on literature are concentrated on individual ICT projects which provide no basis for estimation of overall failure/success rates. More so, Heeks (2002) states that where most ICT projects are introduced, they mainly end in failure – *either partial or total* due to large gaps that often exist between project design and the African public sector reality, of which Nigeria is a key component and this arises particularly because ICT project concepts and designs have their origins in the West; origins that are significantly different from Nigerian realities. Thus, it is pertinent to ask, *what are the success and failure rate of these ICT projects*. With this enlightenment about the need for ICTs, no research work has actually sought to assess existing ICT projects in Nigerian academic libraries using the Design-Reality Gap model. This study is of practical implication, as it will provide information about the state of ICT projects in the Nigerian academic libraries and will be useful and important for the effective planning, implementation and management of ICT projects thereby, laying a strong foundation for assessing ICT projects. More so, it will benefit the government, partnering agencies (sponsors and donor agencies) and other stakeholders in providing background for designing policies for ICT project.

Literature Review

ICT has remained a catalyst and vital tool in the issue of national development (Aworanti, 2016). ICT is a term used to describe the ability to access information with the use of telecommunication-based internet resources (Aina, Okunnu and Dapo-Asaju (2014). Information, as power is effectively an infinite resource and a vital tool needed for the development of all sectors in any nation (Adebayo, Ahmed & Adeniran (2018). ICT provides the ability to create, organize, manipulate and access information from remote locations across the globe, within a short time, with the application of technologies consisting of hardware, software, network and media for collection, storage, processing, transmission and presentation of information in vocal, textual, pictorial and multimedia formats (Igwe, 2011 & Aina, et al, (2014). It is therefore, imperative that ICT application in libraries would go a long way in satisfying the information need of the users. It is worthy of note, that the emergence of ICT has impacted greatly on the quality of information provided through libraries. It also enables proper and adequate provision of library services to library users from all disciplines. In this 21st century, the drastic role of ICT in library operations cannot be over emphasized (Adebayo, etal, 2018). Many traditional library routines and operations such as acquisition, circulation, cataloguing, classification, reference etc that were tedious, repetitive in nature, time consuming and performed manually are now being converted to computerized operations providing a better and faster services to the end users (Atanda, (2018); Idowu, (2011). The adoption of ICT in libraries has addressed the problem of manual processing of materials with short comings of filling and typing errors, retrieval errors, time consumption and drudgery (Kadiri (2004) & Shukla & Sialai, (2016). The adoption of ICT in libraries has led to the advent of Electronic library (E-library). The term 'Electronic library' in broad terms means a collection of networked digital information resources and associated technical and managerial infrastructure (Daniel,2012). Electronic library is a library in which some or all of the holdings of the library are stored in electronic media formats (as opposed to print, microform, or other media) along with means for organizing, storing, and retrieving the files, and the services of the library are also made available electronically over the internet so that users can access them remotely (Trivedi ,2010; Aman & Norliyanan,2002 and Onwuchekwa & Jegede, 2011). The advent of E-library especially in academic libraries has improved on 1) Library Housekeeping Operations namely: Acquisition, Cataloguing and Classification, Circulation, Serial and Reference operations.2). Information Services such as OPAC (Online Public Access Catalogue), Internet Services and E-mail Services.3). Library Networking services namely: Inter Library Networking (WAN) and Intra Library Networking (LAN) services are being provided more efficiently and effectively, as they offer convenient time, place, cost effectiveness, faster and most-up-to-date dissemination and end users involvement in the library and information services process (Adebayo, etal, 2018 ; Atanda, (2018) & Ndum, Edem, & Onukwugha (2012).More so, E-libraries has enabled easy generation of records, improvement in information services and improved control over library collection (Atanda (2018) & Kadiri (2004). Furthermore, E- library has addressed the scarcity of teaching and research materials in the libraries of institutions of higher education through the provision of

current e-books, journals, and other library resources, hence enabling lifelong learning through the establishment of access to shared global virtual archival collections (Ya'u,2003; Russel & Dlamini,2002). In view of benefits of E-library, The Federal Government of Nigeria through the National Universities Commission (NUC) initiated various projects designed to lunch Nigerian academic libraries into information global society. Among the projects are National Virtual (Digital) library by NUC, National Virtual library by the Ministry of Science and Technology, UNESCO Virtual Library Pilot Project, Xlib and TINLIB project and so on (Kumar & Kar, 1995; Sani & Tiamiyu,2005; Etim, 2006; Nok,2006; Idowu &Esere,2011; Okon&Ogbodo,2014; Adesanya& Idogwu,2015; and Atanda,2018). However, the efforts of government at developing electronic library according Nok (2006) in her study revealed that, the Virtual library project has remained on paper after several years of implementation. Also, Etim (2006) in a study stated that Nigeria has been involved in many projects to create National Research and Education Networks namely Virtual Library Consortia (VLC) and other projects. Findings from the study revealed that a few of the projects have recorded some measures of success; none has come to fruition, because most of the projects were neither initiated by the correct "owners" nor instigated by demand. More so, Gbadamosi (2011) in a study examines the level of library automation and virtual library development in four academic libraries. The study discovers that none of the libraries is fully automated, this due to lack of adequate attention to library automation and library development. Nevertheless, the National Virtual (Digital) library project resulted in promoting the low ICT skills of Nigerian librarians (Okon & Ogbodo,2014). Similarly, Sani and Tiamiyu (2005) in their study evaluated the implementation and impact of efforts led by the Nigerian National Universities Commission (NUC) since about 1990 to mid-2002 on TINLIB Library software project, their study revealed that, efforts by NUC has led to kick-starting the process of automating services in universities. As a result of this, Nigerian universities developed their own E-library initiatives. A notable number of academic libraries have developed their E-libraries and have established links with digital collections on various databases namely: Access to Global Online Research in Agriculture, AGORA; JSTOR, Health Inter Network Access to Research Initiative, HINARI; The Essential Electronic Agricultural Library, TEEAL;, LANTEEAL; EBSCOHOST;, E-Granary Digital Library; Highwire Archive; INASP Peri: Program for the Enhancement of Research Information; African Journals Online, AJOL; Arab Social Science Research Virtual Library, ASSR and so on (Fabunmi et al, 2006; Ndum, Edem & Onukwugha, (2012). Some of these academic libraries include: Nimbe Adedipe Library, at Federal University of Agriculture Abeokuta, Kenneth Dike library, at University of Ibadan and Hezekiah Library, at Obafemi Awolowo University Ile-Ife. Recently, University of Lagos library established its virtual library through MTN initiatives (Ndum, Edem & Onukwugha, (2012). More so, some Nigerian University libraries have embarked on developing their own institutional digital repository. The Repository contains a growing record of its research outputs from staff and research students including Dissertations, Inaugural lectures, Foundation day lectures and Theses, etc. These Digital Repository showcases the University's research, providing the potential for increased visibility, a wider audience and collaborative opportunities (FUTA, 2014).

This paper reviewed E-library project that is operated in Five (5) federal universities in South-West, Nigeria due to the level of E-library availability and awareness in these institutions as stated in the studies reviewed above to determine the success and failure rate of these E-library project which will be assessed on the basis of the level of information, technology that is put into use, the processes of delivering this information, objective of the project, the management system and structure, staffing and skills required for the project and other resources(ITPOMSO),hence the need for assessment using a scientifically established model/standard.

Research Model: Design-Reality Gap Model

The Design- Reality Gap Model is a monitoring and evaluation tool used to measure the success of ICT4D projects, especially e-government projects. The ITPOSMO model seeks to explain the high rates of failures of information systems in developing countries (Heeks,2002).

In the domain of ICT4D, the design reality gap has been adopted as assessment tool to measure the success of ICT4D projects. The model has helped to explain the mismatch between ICT4D designs and local user actuality, where gaps exists between the way in which a project was designed, and the reality that the same project aims to fit. As a result of misfits, projects can be perceived as useless, or suboptimal, and therefore be quickly abandoned, left used, or not meet their stated objectives (Dada,2006;Masiero,2016).The basis of Heeks' model is the idea that there are two points in any e-government project: the reality, that is 'where we are now,' and the goal of the project, that is 'where the e-government project wants to get us. The larger the gap between these two points, the more difficult it is to successfully complete the project. The smaller the gap, the higher the chance of success (ICT4D, 2008). There are seven (7) dimensions that determine this gap, they are: information, technology, processes, objectives and values, staffing and skills, management systems and structures, and other resources: time and money which are summed up in the acronym ITPOSMO, which together create a model for assessing the success and failure of the e-government, given under Table 1. According to Heeks (2002), ICT project initiatives may fall into one of the three outcome categories: Total failure: The initiative never implemented, or was implemented but immediately abandoned. Partial failure: The main goal of the initiative and/or desired result has not been achieved, or when the initiative initially is successful but after a year or so fails (may affect developing countries) Success: The initiative is successful when we do not experience significant undesirable outcomes and in which the most of the stakeholder's major goals are attained. Heeks divides the failure of the e-government projects as below 35% - total failures 50% - partial failures 15% - successful (Heeks,2003). More so, the overall rating analysis is to add up the rating numbers for all seven ITPOSMO dimensions and interpretation is given below in Table 2.

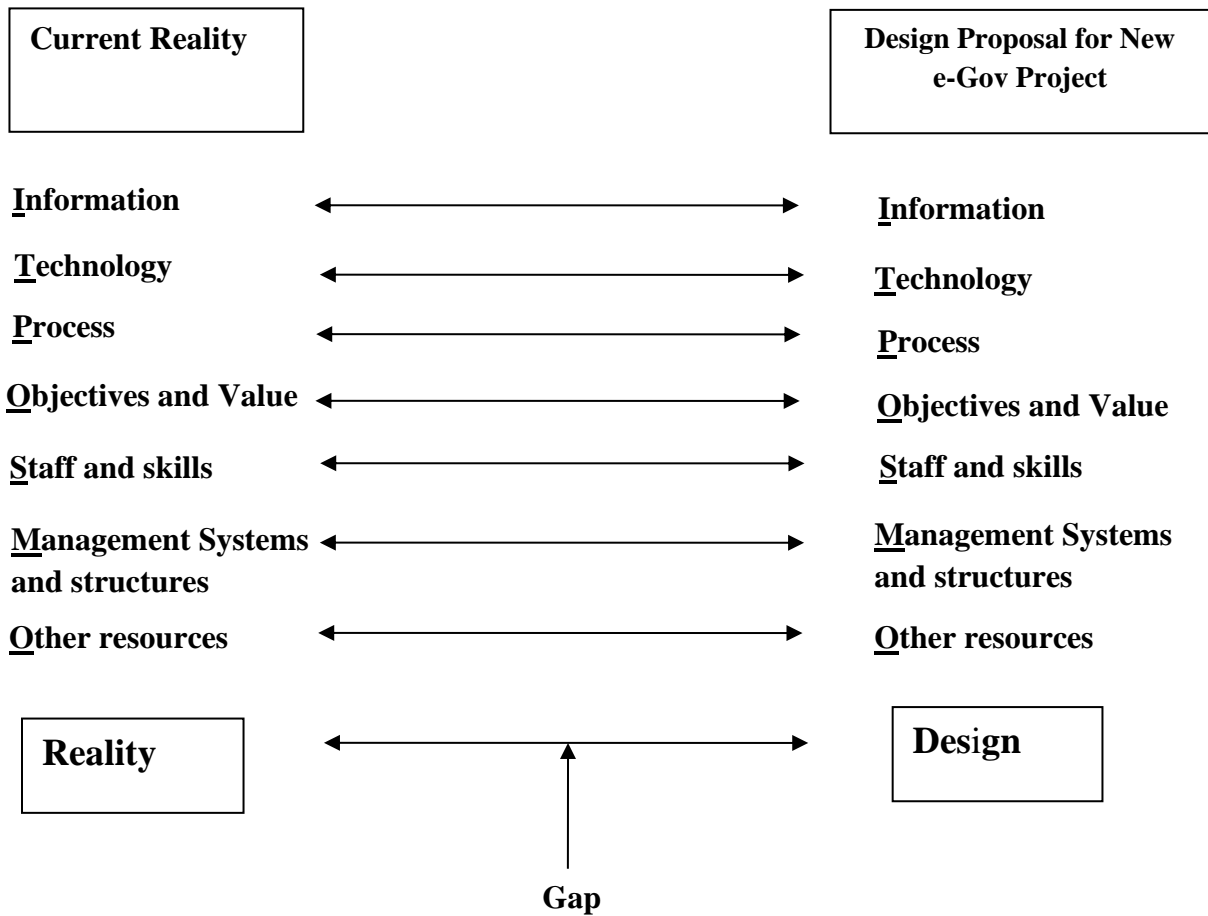


Table 1: Design-Reality Gap (Heeks, 2002)

<i>Overall Rating</i>	<i>Likely Outcome</i>
57-70	Your ICT project will almost certainly fail unless action is taken to close design-reality gaps.
43-56	Your ICT project may well fail unless action is taken to close design-reality gaps.
29-42	Your ICT project might fail totally, or might well be a partial failure unless action is taken to close design-reality gaps.
15-28	Your ICT project might be a partial failure unless action is taken to close design-reality gaps.
0-14	Your ICT project may well succeed.

Table 2: The overall rating scale for ITPOSMO Dimensions (Heeks, 2002)

Methodology

The descriptive survey research design was adopted for this study because of its suitability in gathering information about prevailing conditions of the selected ICT projects. The population of the study is the ICT projects stakeholders. The ICT projects stakeholders are those at the strategic level in the organizational structure of the ICT projects in the institutions, which are the heads of units of the ICT projects. The purposive sampling technique was used to select five (5) heads of unit of the selected ICT projects. According to Bryman (2012), Purposive sampling allows access to respondents who are relevant to the research i.e. Information rich participants on the topic of interest. The five (5) of them constitute the initial sample size. Data was collected with the use of a questionnaire based on the Design-Reality Gap model checklist and a semi-structured interview conducted based on the variables of the model. To ensure that the questionnaire yielded valid and reliable data, it was accessed with face and content validity based on its use in previous literatures and researches.

Results and Finding.

The analysis of result on Electronic library (E-Library) project. The responses were captured as labelled.

Characteristics of ICT Projects' Heads of Units

Name of Institution	ICT Project	Status/Position
FUNAAB	E-library	Principal Librarian
FUTA	E-library	Systems Programmer
OAU	E-library	Principal Librarian
UI	E-library	Principal Librarian
UNILAG	E-library	Head

The result presented in Table 3 shows that ICT E-library heads in FUNAAB, OAU and UI bear the same status, except for UNILAG (head) and FUTA (systems Programmer) which could have been the representative-respondent for the principal librarian or head at the time of instrument administration.

Interpretation of Questionnaire for the E-library Project

According to Heeks (2002), the seven (ITPOSMO) dimensions overall gap score is 70, implying that each dimension (seven factors) has an ideal score of 10 (i.e. Goal or ideal score). However, there are sub-dimensions or items (dimensional score) under each of the ITPOSMO dimensions. Therefore, if a dimension has 5 or 6 items, the dimensional score is 50 or 60. In order to get the reality score, there is need for a conversion index to generate the scores of each sub-dimensions or items and is gotten thus, by dividing the ideal score (10) by the total dimensional score for each dimension. Hence, the reality score is gotten by computing the score for each dimension as provided by the respondent (Project score), then

multiplying it by the conversion index score. The rating/ gap is gotten by subtracting the reality score from the goal or ideal score, which is (10) for each of the ITPOSMO dimensions. The results for each ICT projects evaluated are presented on tables 4.13 to 4.22 below. For example:

Information dimension has 5 sub-dimensions or items =50, Ideal score =10. To get the score for sub-dimension or items = $10 / 50 = 0.200$, this is the conversional index. This means that each of the 5 sub-dimensions or items under the Information dimension has a score of 0.200. project score = this is addition of all the gap rate as provided by the respondent on the Information, which is = 12. The reality score is gotten by multiplying project score (12) by the conversion index (0.200) = 2.400. Therefore, the gap rate is then gotten by subtracting reality score (2.400) from the ideal score (10) for each dimension, this is = 7.600. This is the same procedure for all the other dimensions.

a) FUNAAB E-Library project.

Dimension	Dimensional Score (DS)	Goal/Ideal Score (IS)	Conversion Index (CI) = IS/DS	Project score (PS)	Reality Score (RS) = PS x CI	Rating/ Gap = IS - RS
Information	50	10	0.200	12	2.400	7.600
Technology	50	10	0.200	14	2.800	7.200
Processes	30	10	0.333	4	1.332	8.668
Objectives & Values	60	10	0.167	11	1.837	8.163
Staffing & Skills	70	10	0.143	22	3.146	6.854
Management Systems & Structures	40	10	0.250	8	2.000	8.000
Other Resources	30	10	0.333	10	3.330	6.670
Overall Gap Total						53.155

The table 4 result above of FUNAAB E-library project shows that this project's overall gap or rating score is 53.155, lying on the fourth category (43 – 56) of Heeks (2002) model rating table. FUNAAB's E-library project may well fail unless action is taken to close the design-reality gap(s). From the table above, there are very large gap between design and reality, all the ITPOSMO dimensions have high gap rate, which shows greater risks of failure, this is as a result of the low dimensional/reality gap score implying that current realities does not show what was design. More so, FUNAAB E-Library project failure is supported by the interview transcription, which states that "change of University or Library leadership affect library policies. Change brought by new government also come along with new polices and ideas which at times don't tally with those of predecessors" and also, "the problem of inadequate funding "This accounts for the failure of the FUNAAB E- library project.

(b) FUTA E-library Project

Dimension	Dimensional Score (DS)	Goal/Ideal Score (IS)	Conversion Index (CI) = IS/DS	Project score (PS)	Reality Score (RS) = PS x CI	Rating/Gap = IS - RS
Information	50	10	0.200	49	9.800	0.200
Technology	50	10	0.200	49	9.800	0.200
Processes	30	10	0.333	30	10	0.000
Objectives & Values	60	10	0.167	54	9.018	0.982
Staffing & Skills	70	10	0.143	62	8.866	1.134
Management Systems & Structures	40	10	0.250	34	8.500	1.500
Other Resources	30	10	0.333	25	8.325	1.675
Overall Gap Total						5.691

The table 5 result above indicates that FUTA E-library project's overall gap or rating score is 5.691. This score lies on the first category (0 – 14) of Heeks (2002) model rating table. FUTA's E-library project may well succeed. From the table above, there are little or no gaps at all between design and reality, all the ITPOSMO dimensions have very low gap rate, which shows greater chance of success, implying that current realities show what was design. The Processes dimension (0000) show no gap between design-reality, as well as Information and Technology dimensions both scoring a rating gap score of (0.200). These accounts for the success of the project.

(c) OAU E-library Project

Dimension	Dimensional Score (DS)	Goal/Ideal Score (IS)	Conversion Index (CI) = IS/DS	Project score (PS)	Reality Score (RS) = PS x CI	Rating/Gap = IS - RS
Information	50	10	0.200	32	6.400	3.600
Technology	50	10	0.200	34	6.800	3.200
Processes	30	10	0.333	20	6.660	3.340
Objectives & Values	60	10	0.167	21	3.507	6.493
Staffing & Skills	70	10	0.143	35	5.005	4.995
Management Systems & Structures	40	10	0.250	27	6.750	3.250
Other Resources	30	10	0.333	19	6.327	3.673
Overall Gap Total						28.551

The table 6 result above shows OAU E-library project’s overall gap or rating score is 28.551 (≈ 29), lying on the third category (29– 42) of Heeks (2002) model rating table. OAU’s E-library project might fail totally or be a partial failure unless action is taken to close the design-reality gap(s). From the table above, there are large gaps between design and reality, the ITPOSMO dimensions show large gap rate, which shows greater risk of failures’ implying that current realities do not show what was design. There are large gap scores in the Objectives and values dimension (6.493) and the Staff and skills dimension (4.995), these along with others accounts for the partial failure of the OAU E-library project.

Furthermore, the interview on the Information dimension states “the quality and quantity of information is adequate”. Also, the interview on the Technology dimension says thus “the library has its own network and the university their own network. Also, the library has its own bandwidth, there is Wi-Fi anywhere in the library and also wired network. Students as well as staff can access the e-resources through the university website within the IP range of the university. The library has 4 E-libraries, two in the main library and two in the faculty of law”. This interview transcription above, supports the reduced gap scores in Information and Technology dimensions. However, interview on staffing and skills, states, the current staff are adequate, while on funding: “there is never enough money anywhere, there is still a section in the E-library yet to be filled with system, even when you fill, there is still need for more fund”

(d) UI E-library Project

Dimension	Dimensional Score (DS)	Goal/Ideal Score (IS)	Conversion Index (CI) = IS/DS	Project score (PS)	Reality Score (RS) = PS x CI	Rating/Gap = IS - RS
Information	50	10	0.200	23	4.600	5.400
Technology	50	10	0.200	32	6.400	3.600
Processes	30	10	0.333	15	4.995	5.005
Objectives & Values	60	10	0.167	31	5.177	4.823
Staffing & Skills	70	10	0.143	57	8.151	1.849
Management Systems & Structures	40	10	0.250	28	7.000	3.000
Other Resources	30	10	0.333	26	8.658	1.342
Overall Gap Total						25.019

The table 7 above shows result of UI E-library project shows that this project’s overall gap or rating score is 25.019, lying on the second category (15 – 28) of Heeks (2002) model rating table. UI’s E-library project might be a partial failure unless action is taken to close the design-reality gap(s). From the table above, there are some large gaps between design and

reality on the ITPOSMO dimensions. However, the Staff and skills dimension and the Other resources dimension show a little gap rate between design and reality, implying that current realities show what was design on these dimensions. More so, interview on ITPOSMO dimension admitted the adequacy of the quality of information, inadequacy of staff due to expansion and technological advances, and the inadequacy of funding, stating that so much fund is being spent on generating power.

(e) UNILAG E-library Project

Dimension	Dimensional Score (DS)	Goal/Ideal Score (IS)	Conversion Index (CI) = IS/DS	Project score (PS)	Reality Score (RS) = PS x CI	Rating/Gap = IS - RS
Information	50	10	0.200	27	5.400	4.600
Technology	50	10	0.200	28	5.600	4.400
Processes	30	10	0.333	19	6.327	3.673
Objectives & Values	60	10	0.167	34	5.678	4.322
Staffing & Skills	70	10	0.143	42	6.006	3.994
Management Systems & Structures	40	10	0.250	26	6.500	3.500
Other Resources	30	10	0.333	22	7.326	2.674
Overall Gap Total						27.163

The table 8 above result indicates that UNILAG E-library project’s overall gap or rating score is 27.163. This score lies on the second category (15 – 28) of Heeks (2002) model rating table. UNILAG’s E-library project might be a partial failure unless action is taken to close the design-reality gap(s). From the table above, there are large gaps between design and reality, the ITPOSMO dimensions show large gap rate, which shows greater risk of failure, implying that current realities do not show what was design. The lowest gap rating are in the Other resources (2.674) and Management systems and structures (3.500) dimensions.

More so, interview on the Information and Technology dimension states: “the library has done a lot in terms of information. The library has subscribed to a lot databases both local and foreign, which has improved its *information* base” on Technology its states: “the library has over 100 computers and a software that is compatible on all platforms. Also, the library has an effective network, which has enabled access to its e-resources anywhere with the

University” However, the interview is in contrast with rating /Gap score of these dimensions, the Information and Technology dimensions show a larger gap between design and reality.

Discussion of Findings

The results of this study revealed that of all the ICT projects assessed in this study, only FUTA E-Library project is successful, while the rest of ICT projects are partial failures or failure. Heeks (2003) states that, the success of an ICT project results from an ICT initiative in which most stakeholder groups attain their major goals and do not experience significant undesirable outcomes. Also, Heeks (2003) described partial failure as ICT initiative in which the major goals/objectives are unattained or in which there are significant undesirable outcomes. This is supported by the work of Heeks (2002) who clearly stated that only 15% of ICT projects are successful with the rest 85% percent classified as either partial failures or total failures in developing countries. In addition, Etim (2006) supporting this, stated that only a few ICT projects have recorded some measures of success, because most of the projects were neither initiated by the correct "owners" nor instigated by demand.

The success of the FUTA E- Library project can be attributed to its Information, Technology, Processes and Objectives and Values dimensions which show no change between what was design and what is in reality and also the reduced gap in the other dimensions of which the highest gap score is 1.675. However, this is in contrast with the FUNAAB E-Library project which had large gaps in its Processes, Objectives and values; and Management systems and structures dimensions, with the least dimensional gap-score of 6.670 (other resources dimension) and the highest gap score 8.668 (Processes dimension); this led to it being a failure.

More so, the OAU, UI and UNILAG E-Library projects are partial failures and this is also attributed to large gaps in some of its dimensions with respect to design and reality. This is supported by the works of Heeks (2002) who stated that the larger the design-reality gap, the greater the risks of ICT project failure and equally, the smaller the gap, the greater the chances of success. This was also buttressed by Heeks (2003) who states that if the success rate of developing countries ICT projects is to increase, there needs to be more local improvisations that reduce design-reality gaps. This means changing local realities to make them closer to information system design, and/or changing the (often 'imported') information system designs to make them closer to developing countries organizational realities.

Conclusion and Recommendation

This study has contributed to the existing body of knowledge by providing insight/data on the present state of ICT projects in Nigerian academic Libraries. The study revealed that, there is a high rate of failure than success with respect to the selected ICT projects. Based on the findings of the study, it can be concluded that out of all the selected ICT projects, only the FUTA E-Library project was a success, while the rest were partial failures except the

FUNAAB E-Library project that was a failure. The result revealed that the success of the FUTA E-Library project was as a result of little or no gap between what was design and what is in reality, while partial failures and failure of the other projects can be concluded to be as a result of the large gap between design and reality.

Based on the findings from the study, the following are recommended for government, donor agencies, ICT projects stakeholders, managers, administrators and each university institution surveyed:

- i. ICT project initiatives should be initiated or instigated on the demand of institutional need, not imposed on them as a result of band wagon effect.
- ii. It is important to conduct a need analysis/assessment prior to the implementation of ICT project initiatives. This will help to make a distinction between a “concern” and a “validated need”.
- iii. There should be an establishment of a monitoring body or agency to monitor ICT projects and their implementation.
- iv. ICT project stakeholders/managers should draw up policies/framework guiding initiation, implementation and delivery of projects.
- v. There should be strong management commitment to enable the success of ICT projects.
- vi. ICT projects are capital intensive, so there should be adequate funding of ICT projects to increase the success rate.

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