February 2018

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Influence of Performance Expectancy and Facilitating Conditions on use of Digital Library by Engineering Lecturers in universities in South-west, Nigeria

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Abstract

Digital library (DL) is an important information system which provides all-encompassing benefits to various stakeholders in scholarship and research through its provision of access to immediate and up-to-date information resources. The review of literature indicated low use of this system by engineering lecturers owing to system characteristics; and pay little or no attention to factors such as Performance Expectancy (PE) and Facilitating Conditions (FC) on the use of this system by engineering lecturers in universities. This study therefore investigated the influence of performance expectancy and facilitating conditions on the use of digital library by engineering lecturers in universities in South-west, Nigeria. Descriptive survey research design of correlational type was adopted. The study comprised 759 engineering lecturers in 10 universities in South-west Nigeria. Data analysis for the study involved frequency counts, percentages, mean and standard deviation were used for the analysis. Performance expectancy was found to be a critical factor in the use of digital library by engineering lecturers. The paper therefore, recommends the need for improvement of facilitating conditions such as provision of uninterrupted power supply, high Internet bandwidth and facilitation of periodic training in order to sustain the use of digital library by engineering lecturers in universities in South-west, Nigeria.

Keywords: Performance Expectancy, Facilitating Conditions, Digital Library Use, Engineering Lecturers

Introduction

The need to find new ways of organising and managing information resources have led to the adoption of technologies and innovation. The fallout of which brought about the digital library system. Zha, Zhang & Yan (2014) defined digital library as a distributed system with capabilities of storing various electronic resources. They noted that the system can easily and conveniently be accessed by remote end-users via networks. Heradio, Fernandez-Amoros, Cabrerizo & Herrera-Viedma (2012) averred that in the last couple of years, digital libraries have moved away from a strong aspiration to realism and being an extension of physical libraries in the modern information society. Digital libraries, among their many roles, play an important part in assisting teaching and research activities through provision of up to date information resources. Digital libraries, therefore, make it possible for electronic books and journals to be accessible to an unlimited audience at the same time, anytime and at any location. It only requires the computerisation of all the library operations such as selection and acquisition, cataloguing and classification.

Frumkin (2004) averred that digital library services cover a gamut of needs addressing issues within the contemporary library and traditional library communities. He emphasised that the services available in digital library include interoperation, searching, alerting, browsing, conversion, cataloguing as well as path finding services. Lecturers, particularly the engineering lecturers are expected to make use of this information system to enhance their teaching and research activities. The lecturers in engineering are qualified by virtue of their basic education and training in applying scientific method and outlook to the analysis and solution of engineering problems. They are assumed to be able to take personal responsibility for the development and application of engineering science and knowledge, notably in the research, design, construction, manufacturing, supervising and managing of the education of the prospective engineers. In Nigeria, just like in other parts of the world, the first two years of an engineering curriculum are devoted primarily to mathematics, science, and general education with relatively few specialised courses.

The purposes and frequency of use of digital library could be due to its robust provision of up to date information resources in preparation of lesson notes, collation of articles for conferences and seminars, ready information on patents in the bid to enhance teaching and research activities of lecturers. However, in spite of the advantages and benefits embedded in the use of digital library to teaching and research developments of lecturers, some studies in the field of digital librarianship have established that the use of digital library is not as high as expected most especially among engineering lecturers. The reasons attributed for the low usage were largely connected to their attitudinal and behavioural intention to use (Majumdar, Majumdar, 2014; Robinson, 2010). Similarly, various available models have alluded to the influence of attitudes and behavioural intention on the use of technology/system. Prominent among these models are the Technology Acceptance Model (TAM) (Davis, 1989), Diffusion of Innovation Theory (DOI) (Rogers, 2003), Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis & Davis, 2003).

According to the Unified Theory of Acceptance and Use of Technology model, the degree to which a technology/system is accepted depends largely on a number of factors such as performance expectancy, effort expectancy, social influence and facilitating conditions. The UTAUT model combines the previous eight theoretical models and is made up of four key factors that act as determinants of behavioural intentions and usage behaviour. This study is however, limited to the influence of performance expectancy and facilitating conditions on the use of digital library. Performance expectancy as a variable in UTAUT model refers to the degree to which individual perceives that using a system will help in attaining a gain in job performance (Venkatesh *et al*, 2003). The term performance expectancy (PE) is similar to TAM's perceived usefulness (PU). Performance expectancy is assumed that the relative performance of digital library in terms of enhancing research productivity, access to current and relevant literature, comprehensiveness as well as improving pedagogy determine its use.

Performance expectancy has implications for the use of digital library among engineering lecturers. This is simply because the way the engineering lecturers perceive digital library to be useful in provision of current and timely information in enhancing their teaching and research will influence their use of the system. Moreover, they are likely to be interested in comparing the costs and benefits (in terms of effort and results) of using the digital library. It suffices to say that a user will only use a system due to the conviction that the system can provide

answers to his/her queries. However, if the engineering lecturers perceive that digital library may not enhance their job performance, they may decline the use of the system. Therefore, performance expectancy may represent a critical factor in enhancing or hindering the use of digital library among engineering lecturers.

Another variable in this study that could influence the use of digital library among engineering lecturers is facilitating conditions. Facilitating conditions refer to the degree to which an individual believes that organisational and technical infrastructure exists to support the use of a system (Venkatesh *et al*., 2003). Facilitating conditions such as resources availability, skills as well as technical infrastructure could play a significant role towards digital library use among engineering lecturers. Given that an individual perceives that using a system will improve his job performance represents performance expectancy, while availability of technical and organisational infrastructure required to use a system represents the facilitating conditions; both performance expectancy and facilitating conditions could be said to play a critical role and have direct impact on the use of any system. Performance expectancy and facilitating conditions, therefore, represents potential factors that could influence engineering lecturers to use digital library. Besides, there is a gap in the literature on comprehensive studies reporting the influence of performance expectancy and facilitating conditions by engineering lecturers in universities in Nigeria. This study fills this gap and provides valuable insight into the influence of performance expectancy and facilitating conditions on use of digital library by engineering lecturers in universities in South-west, Nigeria.

Objective of the study

This study aimed to examine factors that influence the use of digital library by engineering lecturers in universities in South-west, Nigeria. The study specifically sought to:

1. Determine the purposes of using digital library by engineering lecturers in universities in South-west Nigeria;
2. Ascertain the frequency of use of digital library by engineering lecturers in universities in South-west Nigeria;
3. Determine the performance expectancy of engineering lecturers in the use of digital library in universities in South-west Nigeria; and
4. Examine the facilitating conditions of engineering lecturers in the use of digital library in universities in South-west Nigeria.

Review of Related Literature

Performance expectancy is a construct that has received a great deal of attention from several authors and researchers from different fields of human endeavours (Venkatesh, Morris, Davis & Davis, 2003; Derntl, 2011; Khayati & Zouaoui, 2013 etc.). Some of these studies as pointed out by Rogers (2003) attempted to identify and use the construct to explain information system adoption and use. Performance expectancy (PE) is the degree to which an individual believes that using a system will help him or her to attain gains in job performance (Venkatesh *et al*, 2003).The term performance expectancy emerges from the combination of five factors that helped in the formation of perceived ease of use (technology acceptance model), external motivation (motivational model), job fit (personal computer utilization model), relative advantage (innovation diffusion theory) as well as outcome expectancy (social cognition theory) (Venkatesh & Davis, 2000).

Similarly, Khayati & Zouaoui (2013) noted that performance expectancy (PE) is same as the perceived usefulness (PU) and viewed the concept as the gain in performance that an individual believes he can win when using a technology. Performance expectancy had also been reported as influencing factors towards information system adoption and use. Cheok and Wong (2015) analysed predictors of e-learning satisfaction in teaching and learning for secondary school teachers in Malaysia. User-related characteristics, organisational-related characteristics as well as the e-learning-system characteristics were discussed as the potential determinants of satisfaction among the teachers. Webster and Watson structured approach were adopted in this study to locate and identify materials pertinent to the study with the aid of leading databases such as Cambridge University Press, Emerald, EBSCOHost, Science Direct, Springer, Wiley Online, Proquest, and Sage. Their findings show that the teacher's characteristics; attitude, anxiety, and self-efficacy will to a large extent influence whether the system is taken up effectively. They further submitted

that teachers need support in order to change their pedagogical practices. The authors therefore, recommended organisation support in terms of; training, technical and management, as all important factors necessary in initiating teachers into adopting new innovation.

Similarly, the term facilitating conditions is also one of the base constructs of UTAUT Model by Venkatesh, *et al* (2003). The authors noted that the construct represents the degree to which an individual believes that an organisational and technical infrastructure exists to support the use of a system. In this context, facilitating conditions is described as the extent to which university lecturers believe that technical infrastructure exists to enhance the use of digital library. Facilitating conditions radically improved digital library organizational and development ideas by introducing a new paradigm which has strong implication on the use of the system. The paradigm thereby make facilitating conditions (infrastructure) to remain as technological solutions deployed and maintained by trusted organisations which guarantee their sustainability and quality of the services offered to the users. Facilitating conditions facilitate the realisation of digital library to some extents. It represents the logistics and technical aids needed to use digital library by a community of users with. Authors such as Teo and Milutinovic (2015) has employed facilitating conditions, subjective norm and knowledge of mathematics as external variables to the Technology Acceptance Model (TAM) to examine the intention to use technology for teaching mathematics among pre-service teachers in Serbia. Structural equation model was used to analyse data gathered from the survey of 313 participants. The analysis revealed that the proposed model in this study has a good fit and accounted for 5.4% of the variance in the behavioural intention to use technology.

Pre-service teachers' attitudes to computers use in Serbia were found to be the only factor with direct influence on the intention to use technology. The results also indicated that facilitating conditions have a significant influence on pre-service teachers' performance expectancy and facilitating but not on attitudes towards computer use. The authors submitted that although pre-service teachers may perceive technology to be useful and easy to use in the presence of technical support, their attitude towards computers would not necessarily be influenced. Tabassum, *et al* (2015) critically examined factors influencing digital library system usage at East West University in Bangladesh. Questionnaire-based survey and observational methods were used to gather information from one hundred and twenty nine (129) users (students, staff and scholars) of the institution digital library system. The findings suggested that factors such as user's knowledge of search domain, quality of digital library content, system characteristics and service quality are the facilitating conditions influencing usage of digital library. The study however recommended that technical, physical and intellectual infrastructure needed to be developed upon in order to facilitate the use of digital library in the university library. More user-friendly interface was further recommended to keep user familiar with the terminology, consistence interface style and clear navigation flow.

In a related study, Abolarinwa, *et. al* (2015) found poor internet signal/slow server and inadequate provision of full Internet connectivity as the leading problem encountered when using library electronic resources. They however concluded that high bandwidth results in fast Internet speed and download thus making the usage of the database very easy. Agber and Agwu (2013) assessed 193 agricultural science lecturers' use of digital library resources in six tertiary institutions in Benue State, Nigeria. Percentages, mean scores, regression analysis of analysis of variance (ANOVA) were employed to analyse the data for the study. The result showed that e-journals, e-books, search engines abstracts, video/picture or graphic files and encyclopedia are some of the online resources frequently used by the respondents. The authors concluded that relevance of the resources to the needs of the lecturers is the main driving force to the use of digital library. Therefore, the current study focuses on the influence of performance expectancy and facilitating conditions on use of digital library by engineering lecturers in universities in South-west, Nigeria. Though, there have been initial attempts at understanding factors that could influence use of digital library; the review of literature indicated that none of these studies focused on the importance of digital library among engineering lecturers in South-west Nigeria.

Methodology

Descriptive survey research design of the correlational type was adopted for this study. The population comprised 759 lecturers in the field of engineering in both federal and private universities in South-west Nigeria. The questionnaire was distributed and collected from the lecturers on hand-to-hand basis. The data for the study was collected between April 2016 and November, 2016. The instrument for the study was based on relative advantage,

intrinsic and extrinsic motivation, resources, technical infrastructure, skills and accessibility. Descriptive statistics, such as frequency counts, percentages, mean and standard deviation were used in analysing the data.

Results

Out of 759 lecturers in the field of engineering in the two categories of universities in South-west Nigeria, only 566 (75%) lecturers participated in the study (see *Appendix*). The socio-demographic characteristics (age, gender, educational qualifications and academic status) of the respondents from the two categories (federal and private) of universities were analysed using descriptive statistics (frequency counts and percentages) and the result is as presented in Table 1. Data revealed that the highest number of respondents were found in the age bracket of 41-50 with 321 (56.7%), followed by 51-60 age bracket with 133 (23.4%) and only eight (1.4%) respondents were found in the age range 20-30 and 61-70 respectively. Result on gender revealed that majority of the respondents were males 559 (98.7%) while females constitute 7 (1.3%) percent. This result implied that there is a dominance of male to female lecturers in the field of engineering as indicated in the result where the ratio of male to female lecturers was 39:1.

On educational qualification of the respondents, result showed that 285 (50.4%) had masters degree and only 213 (37.6%) had doctorate certificate. The result as shown in Table 1 further revealed that the highest number of respondents were found in the lecturer grade I cadre 189 (33.4%), followed by 152 (26.8 %) in lecturer II cadre, while 24 constituting (4.2%) of the respondents are professors. The distribution of the respondents based on the result indicates that there are high number of respondents in between Lecturer grade I and II respectively.

Table 1: Socio-demographic characteristics of the Respondents

Socio-Demographic Characteristics	Categories	Frequencies (n=566)	Percentages
Age Range	20-30	8	1.4
	31-40	96	16.9
	41-50	321	56.7
	51-60	133	23.4
	61-70	8	1.4
Gender	Male	559	98.7
	Female	7	1.3
Educational qualification	Ph.D	213	37.6
	M.Phil	68	12.0
	Master	285	50.4
Academic status	Professor	24	4.2
	Reader or Associate	56	9.9
	Senior Lecturer	48	8.5
	Lecturer I	189	33.4
	Lecturer II	152	26.8
	Assistant Lecturer	97	17.1

The result of purpose of use of digital library by engineering lecturers is presented in Table 1. The results indicated that under private universities category, the respondents from Covenant University recorded highest mean score ($\bar{x}$ = 3.73; STD = .45) in the use of digital library to gather information materials for collaborative study, and this was followed by Afe Babalola University with mean score 3.34 and standard deviation of 0.61 respectively. While

in federal universities categorisation, Federal University of Technology Akure and Federal University Oye recorded similar result in the use of digital library for collation of information materials for collaborative study ($\bar{x}$ = 3.52; 3.52). The respondents from Federal University of Agriculture Abeokuta had highest mean score in obtaining patents information ($\bar{x}$ = 2.90, STD =.75). Differential mean score was also obtained in the use of digital library for aiding research. The result revealed that respondents from Obafemi Awolowo University had highest mean in the use of this system for aiding research ($\bar{x}$ =3.17) and Federal University of Technology Akure recorded mean score of ($\bar{x}$ = 2.93) for aiding research. Highest mean score was also recorded for gathering materials in formulation of lesson notes among respondents from University of Ibadan ($\bar{x}$ = 3.13 and STD 0 .45).

Table 2: Purpose of use of digital library by engineering lecturers universities

University		N	I use digital library for collaborative study		I use digital library to obtain patent information		I use digital library to obtain information materials to aid my research		I use digital library for collation of information materials in preparation of my lesson notes	
			Mean	STD	Mean	STD	Mean	STD	Mean	STD
Private	AfeBabalola University Ado-Ekiti	53	3.3421	.6123	2.2473	.8346	1.6537	.8334	2.1112	.7723
	Bells University Ota	21	3.2547	.4339	2.1532	.5489	1.9872	.5889	2.5333	.5411
	Covenant University Sango Ota	64	3.7319	.4510	2.7190	.5632	2.3519	.4155	2.1790	.5632
	Elizade University Ilara-Mokin	6	3.3208	.7404	1.3208	.6543	1.0988	.6154	1.0390	.5493
	Sub-Total	**144**	**13.6495**	**2.2376**	**8.4403**	**2.601**	**7.0916**	**2.4532**	**7.8625**	**2.4259**
Federal	Federal University of Agriculture Abeokuta	22	2.7252	1.0216	2.9080	.75203	2.6258	.88949	2.0736	1.04562
	Federal University of Technology Akure	75	3.5210	.5352	2.6135	.65097	2.9387	.82172	2.5215	.85590
	ObafemiAwolowo University	111	2.4435	1.0143	2.5890	1.42608	3.1718	.59416	2.7546	.52225
	University of Ibadan	79	2.3213	1.3221	1.6687	1.14426	2.7730	.58056	3.1350	.45155
	University of Lagos	108	3.1271	.5213	2.0245	1.03608	2.9264	.92000	2.7239	.77211
	Federal University Oye-Ekiti	27	3.5244	.5121	2.6258	.57827	1.3252	.56529	2.1472	.52391
	Sub-Total	**422**	**17.6625**	**4.9266**	**14.4295**	**5.58769**	**15.7609**	**4.37122**	**15.3558**	**4.17134**

Frequency of use of Digital library

The result of the frequency of use of digital library is presented in Table 3. The result showed that respondents from Covenant University had the highest mean of 3.3816 in the use of digital library on daily basis, and followed by Afe Babalola University ($\bar{x}$ =3.21; STD =0.33). In terms of frequency of use of digital library on weekly basis, Covenant University recorded highest mean ($\bar{x}$ = 3.69; STD =0.67) among the private universities. The result on use of digital library on semester basis showed that respondents from Elizade University had highest mean 2.34 and standard deviation 1.07. Respondents from Afe Babalola claimed to be using digital library once in a session with highest mean 1.09 while respondents with mean score 0.01 from Bells University of Technology claimed not to have accessed digital library before.

Federal University Oye had the highest mean score 3.55 and standard deviation of 0 .53 on daily use. Respondents from University of Lagos recorded highest mean on weekly use ($\bar{x}$ = 3.33; STD =0.57) followed by Federal University of Agriculture Abeokuta with highest mean on semester usage ($\bar{x}$ = 2.63; STD = .58), Federal University of Technology Akure with mean score 0.93 on a session use while respondents from University of Lagos with mean score 0.12 claimed not to have used digital library before.

Table 3: Frequency of use of digital library by engineering lecturers

University

			Daily		Weekly		Once in a Semester		Once in a session		I have never accessed digital library	
		N	**Mean**	**STD**	**Mean**	**STD**	**Mean**	**STD**	**Mean**	**STD**	**Mean**	**STD**
Private	Afe Babalola University Ado Ekiti	53	3.2131	.3333	3.0245	.31330	1.2331	.50394	1.0920	1.4022	0.0041	.8111
	Bells University Ota	21	3.1072	.4816	2.2393	.45589	2.1227	.46842	0.5767	1.3049	0.0128	.8233
	Covenant University Sango Ota	64	3.3816	.5182	3.6994	.66792	1.4172	.86650	0.3129	1.7602	0.0133	.6968
	Elizade University Ilara Mokin	6	3.2017	.5143	2.2331	.50394	2.3436	1.06794	0.5951	.67255	0.0041	.6317
	Sub-Total	**144**	**12.936**	**1.8474**	**11.1963**	**1.94105**	**2.5767**	**5.09828**	**2.5767**	**5.13985**	**0.0343**	**6970.27**
Federal	Federal University of Agriculture Abeokuta	22	3.1767	.4379	3.1350	.4515	2.6251	.57827	0.8037	.3984	.0044	.8162
	Federal University of Technology Akure	75	3,2219	.5247	2.7239	.7211	2.1779	.8002	0.9264	.2696	0.0110	.7072
	Obafemi Awolowo University	111	3.1325	.4636	3.1472	.5291	2.7362	1.3138	0.6196	.4697	0.0031	.5556
	University of Ibadan	79	3.0473	.4501	2.9264	.9000	1.6196	.4867	0.0724	.5078	0.0085	.4592
	University of Lagos	108	3.6667	.4791	3.3252	.5652	1.5521	.4988	0.6258	.8542	0.1173	.54685
	Federal University Oye Ekiti	27	3.5544	.5324	3.0245	1.0308	1.1166	.8406	0.6258	.8949	1.0024	.3922
	Sub-Total	**422**	**32235.5**	**2.8878**	**18.2822**	**4.1977**	**11.8275**	**4.51837**	**3.6737**	**3.3946**	**1.1467**	**3.47725**

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Performance expectancy of digital library use by Engineering lecturers

The results showed that out of the four private universities, Covenant University had highest mean score in terms of relative advantage $\bar{x}$ = 3.68 and Standard deviation of 0.74, while Elizade University had least relative advantage ($\bar{x}$ =2.101 and STD = 0.55) respectively. The intrinsic motivation of lecturers indicated that Covenant University also had highest mean score of 3.4868 (STD=0.4565) followed by Afe Babalola University with mean score of 3.29 (STD = 0.51). In terms of extrinsic motivation, Covenant University recorded highest mean ($\bar{x}$ = 3.57) and STD = 0.51 while Bells University recorded the least mean score in extrinsic motivation. This implies that among all the private universities, Covenant University had highest performance expectancy in the use of digital library. The result of performance expectancy in the federal universities indicated that for relative advantage, University of Lagos had the highest mean score of 2.83 with standard deviation of 0.45 and the least was recorded in Federal University Oye with mean score of 2.25 and 0.44. Intrinsic motivation of lecturers in the use of digital library indicated that the highest mean score was recorded in Federal University of Agriculture Abeokuta (mean =2.52, STD = 1.01) and highest extrinsic motivation was recorded in Obafemi Awolowo University ($\bar{x}$ =3.77; STD=.43).

Table 4: Performance expectancy of digital library use by engineering lecturers

University		N	Relative advantage		Intrinsic motivation		Extrinsic motivation	
			Mean	STD	Mean	STD	Mean	STD
Private	Afe Babalola University Ado Ekiti	53	2.815	0.5401	3.2924	.5141	3.2573	.4831
	Bells University Ota	21	2.421	0.3818	2.5937	.4713	3.2227	.5111
	Covenant University Sango Ekiti	64	3.682	0.7390	3.4868	.4565	3.5672	.5118
	Elizade University Ilara Mokin	6	2.101	0.5536	2.8842	.6089	3.2570	.5672
	Sub-Total	**144**	**11.011**	**2.2145**	**12.2571**	**2.0508**	**13.3042**	**2.0732**
Federal	Federal University of Agriculture Abeokuta	22	2.4325	0.4419	2.5213	1.0110	3.2110	.4723
	Federal University of Technology Akure	75	2.6304	0.3423	3.5002	.5351	3.3823	.7414
	ObafemiAwolowo University	111	2.5316	0.5421	3.4415	1.0141	3.7719	.4315
	University of Ibadan	79	2.4070	0.4321	2.5772	1.0223	3.1782	.5413
	University of Lagos	108	2.8312	0.4502	3.2611	.6479	3.7719	.5543
	Federal University Oye Ekiti	27	2.2485	0.4421	2.0961	.8248	2.1696	.7672
	Sub-Total	**422**	**14.081**	**2.6524**	**17.3974**	**5.0552**	**19.4849**	**0.7672**
	Total	**566**	**25.092**	**4.8669**	**29.6545**	**7.106**	**32.7891**	**2.8404**

Facilitating conditions of digital library use

The result of facilitating conditions of use of digital library by engineering lecturers is as presented in Table 5. The findings showed that engineering lecturers in Covenant University recorded the highest $\bar{x} = 3.50$ (STD= 0.50) in the use of digital library resources (materials and human). The result on technical infrastructure revealed that Bells University of Technology had the highest mean with mean score of 3.44 and standard deviation of 0.54, the skills required to use digital library was found to be high among engineering lecturers in Covenant University ($\bar{x} = 2.88$, STD = 1.00). Result on resources (materials and human) suggested that University of Lagos recorded the highest mean with 3.32 and standard deviation of 0.61 in federal university category. This was followed by the result of technical infrastructure and Federal University of Technology Akure was found to have highest $\bar{x} = 2.84$ and STD = 0.79. Similarly, Federal University of Technology Akure recorded highest mean score in terms of skills ($\bar{x} = 3.33$, STD = 0. .55) while University of Lagos recorded highest $\bar{x} = 3.27$; STD = 0.60) in the use of digital library.

Table 5: Facilitating conditions of digital library use by engineering lecturers

	University		Facilitating conditions							
			Resources (human and materials)		Technical infrastructure		Skills		Accessibility	
		N	Mean	STD	Mean	STD	Mean	STD	Mean	STD
Private	AfeBabalola University Ado Ekiti	53	3.3103	.65596	3.3449	.63000	2.6152	.96456	2.2308	.94818
	Bells University Ota	21	3.2383	.70836	3.4421	.53818	2.2184	1.00012	2.2581	1.02326
	Covenant University Sango Ota	64	3.5047	.50031	3.3116	.65634	2.8815	1.00429	2.4462	1.14606
	Elizade University Ilara Mokin	6	3.3435	.54082	1.9561	.85600	2.3316	.77325	2.4154	1.08818
	Sub-Total	**144**	**13.3968**	**2.40545**	**12.0547**	**2.68052**	**10.0467**	**3.74222**	**9.3505**	**4.20568**
Federal	Federal University of Agriculture Abeokuta	22	3.1864	.67122	2.2117	.97251	1.9467	.81476	2.4754	1.13441
	Federal University of Technology Akure	75	3.2477	.58187	2.8402	.79568	3.3289	.55349	2.4219	1.17925
	Obafemi Awolowo University	111	3.2370	.66313	2.4847	.88962	2.1238	.85750	2.6769	1.09127
	University of Ibadan	79	3.0892	.59891	2.5313	.82867	3.2810	.59298	3.0308	1.10353
	University of Lagos	108	3.3236	.60704	2.2570	.73339	3.3236	.57082	3.2724	.60460
	Federal University Oye Ekiti	27	2.9294	.72227	1.9960	.80249	3.1704	.74313	2.4154	1.05907
	Sub-Total	**422**	**19.0133**	**3.84444**	**14.3209**	**5.02236**	**17.1744**	**4.13268**	**16.2928**	**6.17213**

Discussion

This study investigated the influence of performance expectancy and facilitating conditions on digital library use by engineering lecturers. The findings revealed that engineering lecturers made use of digital library for academic activities. The result is in consonance with the previous findings by Ahmad and Panda (2013) that faculty members of Indian institutes in Dubai International Academic City (DIAC) utilised digital library resources for obtaining information on teaching and research build up. Relating purpose of using digital library, Ansari and Zuberi (2010) submitted that academics in university in Karachi used digital library system in preparation of lesson notes. The result is also in conformity with the submission of Puducherry *et al* (2012) which espoused that faculty members used digital library to gather resources needed for their research and communication purposes. The result obtained in this study is however at variance with the findings of, Majumdar & Majumdar (2014) that only a few of the engineering lecturers were using digital library to enhance their academic and professional competencies.

Result on the frequency of use of digital library by engineering lecturers indicated that majority of them made use of this system for their research activities on daily, weekly, as well as on semester basis. This result corroborates the findings of Shivaraja (2015) in an evaluation of the effectiveness of use of electronic information resources among students and faculty in Xavier Institute of Management and Entrepreneurship, India. The study reported that 39.42% of the respondents used internet sources once a day, 41. 82% used CD/DVD databases once a week as well as 27.88% used both network-based service internet sources. The findings also support the assertion of Ayele and Sreenivasarao (2013) that relevance, social influence and facilitating conditions were most pungent factors enhancing frequency of use of digital library among Ethiopian respondents. The result as obtained in the study is at variance with the submissions of Agyekum and Ossom (2015) that faculty members in Kumasi Polytechnic, Ghana do not use the e-journal frequently due to their stereotype belief that it is complex to use electronic resources than printed resources.

Performance expectancy of engineering lecturers in the use of digital library in universities in South-west Nigeria indicated that the lecturers possessed high relative advantage, intrinsic motivation and extrinsic motivation in the use of digital library. The findings further showed that significant number of engineering lecturers made of use digital library resources because it exposes them to global collaborative research. This finding is in line with the submissions of Tabassum et.al (2015) in East West University in Bangladesh that found staff and students' knowledge of search domain, quality of digital library contents, system characteristics, perceived usefulness and intention to use influence the use of the system.

The study reported that facilitating conditions in terms of technical infrastructure, accessibility, human resources, and skills had significant positive impact on the use of digital library by engineering lecturers. The findings supported the submissions of Teo and Milutinovic (2015) that facilitating conditions had a significant influence on pre-service teachers' perceived usefulness and perceived ease of use but not on attitudes towards computer use. In Dhaka, Bangladesh, Tabassum *et al* (2015) submitted that factors such as user's knowledge of search domain, quality of digital library content, system characteristics and service quality are the facilitating conditions influencing usage of digital library. In Turkey, Gogus and Nistor (2012) found infrastructure, access to networked technologies and training opportunities as facilitating conditions motivating teachers to use the new technology in their respective schools.

Conclusion

Performance expectancy is a critical factor in the use of digital library by engineering lecturers. Therefore, there is need for improvement in facilitating conditions such as provision of uninterrupted power supply, high Internet bandwidth and facilitation of periodic training in order to sustain the use of digital library by engineering lecturers in universities in South-west, Nigeria.

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Appendix

Questionnaire response rate

S/N	University	No of questionnaire administered	No of questionnaire returned	No of usable questionnaire	Response rate (%)
1.	Afe Babalola University Ado-Ekiti	76	55	53	69.7
2.	Bells University Ota	27	23	21	77.8
3.	Covenant University Sango Ota	79	71	64	81.0
4.	Elizade University Ilara- Mokin	7	7	6	85.7
5.	Federal University of Agriculture Abeokuta	38	31	22	57.9
6.	Federal University of Technology Akure	90	79	75	83.3
7.	Federal University Oye-Ekiti	32	29	27	84.4
8.	Obafemi Awolowo University Ile-Ife	154	117	111	72.1
9.	University of Ibadan	100	83	79	79.0
10.	University of Lagos	156	119	108	69.2
	Total	759	614	566	