E-Governance and Cameroon Universities' Management

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ABSTRACT

This present article is titled E-governance and Cameroon universities management. Universities play a major role in creating a successful management that addresses the problems of ambiguity in the laws, transparency, accountability, integrity, and regulations in the workforce and find ways to simplify procedures to combat administrative challenges. Personnel has not performed to the expected standards in understanding shifting new technologies and commercialization of the universities. The hypothesis is that e-governance has a significant influence on the management of state universities in Cameroon. The diffusion of innovations theory (Rogers, 2003) is used. The technology acceptance model (Davis, 1989) is also used. The use of ICTs is the oxygen of the modern economy of an efficient, speedy, and transparent process for disseminating information to the public and other government agencies, providing services, and performing administrative activities. The research design of this study is the mixed methods approach. Data is collected using a questionnaire and semi-structured questions. The population consisted of 816 personnel and administrators. Data is analyzed using SPSS v.0.22. The hypothesis was at the alpha level of 0.05 and the level of significance was 0.000. Spearman rank correlation analysis was carried out. The results have a resilient recommendation.

Keywords: electronics; governance; Cameroon; universities; management

INTRODUCTION

At the time, when there is a discourse about efficiency in the governance of Cameroon universities, the question is how all of their members develop information communication technologies (ICTs) skills to contribute to the global strategic management of the universities. Universities play a major role in establishing the principles of effective management which are considered to be modern management concepts that all administrative organizations must adopt because of their importance in creating a successful management that tries to address many administrative problems such as ambiguity in the laws, transparency, integrity (Al Shobaki, Naser, & Ammar, 2017) and regulations in the workforce and find ways to simplify procedures to combat administrative corruption. University administrators are faced with the challenge of understanding shifting demographics, new technologies, and the commercialization of higher education. Limited resources (financial and human) continue to adversely affect quality, equity, efficiency, effectiveness, and relevance in the management and management of universities.

As a result, administrators and lecturers work increasingly more from a shrinking resource base, while facing an explosion of new skills and knowledge to be acquired. The extensive use of paperwork has led to improper record management such as loss of records, and misappropriation of material and financial resources. The responsibility of university institutions towards MINESUP and that of MINESUP towards universities weaken effective management. Examination leakages are rampant in Cameroonian universities. "L'eau a coulé" is a polar saying phrase to describe the intensity of examination leakage at the university. The increasingly interconnected world, the relationship among universities, innovation and innovativeness, entrepreneurship, and business development, as well as

sustainable and inclusive socio-economic growth and development, require a multidimensional interdisciplinary analysis (Visvizi, Lytra and Daniela, 2018).

This study aims to investigate how e-governance influences the management of state universities in Cameroon. The research employs a survey design and uses quantitative and qualitative analysis. The hypothesis says that there is a significant relationship between e-governance and management of state universities. The following sections present a review of the main concepts, the findings, discussion with recommendations.

LITERATURE REVIEW

(1) Conceptual Framework

The E-governance concept originated at the beginning of the 21st century, mostly as a copy of e-commerce into the public sector. Towards the second half of the 20th century, a new and now thoroughly pervasive form of human communication evolved from Digital Information and Communication Technologies (ICTs) (Abodohoui, Mohiuddin & Su, 2014). The growth of e-governance has been phenomenal over the last few years. It offers us ever soaring medium of communication, enabling public administrations to reach out beyond their social networks, make new connections, and satisfy and form some communities. Many companies and administrations have recognized the power of e-communication for engaging with customers, developing trust around their products and services, and improving media visibility (Mohiuddin, & Karuranga, 2013).

Digital communication between individuals and organizations increased in the second half of the 1980s with the invention of the Internet as a public network. It gained new momentum in the 1990s with the development

of e-commerce and internet protocol licenses (Abodohoui, et al., 2014). Beginning in that period until now, numerous researches were done about ICT usage in developed countries (Abodohoui, 2010, Cheng, 2013). Highly varied ICT has been found across African countries. African countries according to Ernst & Young (2009) categorized ICT market saturation into three: developed, emerging, and virgin. The developed category refers to countries where ICT penetration is above 50% (such as South Africa with 98%). Most of the African countries are located in the emerging market between 20 and 49%. Those countries in the virgin category have ICT penetration rates below 20% of the population. The typical features of these countries are political instability and highly regulated and controlled telecommunication sectors (Cameroon, The RDC, and Zimbabwe). The International Telecommunication Union (ITU) and the Information for the Development Program (InfoDev) created "The ICT regulation toolkit" (ICTR) to provide a web-based tool intended for ICT policymakers and regulators around the world (Etoundi, Onana, Olle, and Ayissi, 2016, Martin, 2012).

E-governance has become increasingly necessary for communicating and exchanging information as we are migrating towards geographically dispersed but digitally connected workplaces (Njebakal and Teneng, 2017). The benefits of using emails in the organization are associated with productivity. Advance use of ICT, such as the internet, online communication, online transaction, e-commerce, e-tax, e-service, and enterprise system to name a few, is an important avenue for socioeconomic advancement in developing African countries (Gupta, Diallo & Marot, 2010). E-governance is considered as an important means of communication. It helps to maintain a business relationship. E-governance allows a firm or an institution to access information and record communication with its suppliers and buyers (Abarchi & Yong, 2011)

Cameroonian Authority recognizes ICTs for its national development (Asongwe, 2012). ICT is a very helpful tool for providing good management to the community, which is bringing a sea change in the working of organizations and institutions (Fonkoua, 2006). Many universities are now embracing the use of ICTs in search of more efficient and competitive processes both in the delivery of lectures as well as in administrative processes (Etoundi et al. 2016). The government is identifying and systematically streamlining regulatory barriers to ensure efficient, secure, and productive use of digital technologies (Njebakal and Teneng, 2017). ICTs in education mean, being digitally literate or having the infrastructure. Education is important for social and economic development, and higher education is a key area to maintain a country's competitiveness in the global economy (Fowa, 2017). Educational institutions are looking for innovative ways to increase access to higher education and improve the quality of their programs and courses in a bid to improve their competitiveness (UNESCO, 2011).

(2) Theoretical Framework

Different theories and models have been used to inquire about ICT adoption in organizations in various fields of study. Most of these theories root back to Rogers' diffusion of innovations theory (Rogers, 2003) and the Technology Acceptance Model (TAM) (Davis, 1989). These theories are widely applied to individual and organizational perspectives to address the ease of operation and usefulness of the technology adoption.

• *Diffusion of innovations theory (Rogers, 2003)*

The diffusion of innovations theory is the most appropriate for investigating the adoption of technology in higher education and educational environments. Diffusion of innovation is the characteristics of the innovation, communication channels, and social system, all interacting over time (Abodohoui et al., 2014). In fact, much diffusion research involves technological innovations so, Rogers (2003) usually used the word "technology" and "innovation" as synonyms. According to Rogers (2003), adoption is a decision of "full use of an innovation as the best course of action available" and rejection is a decision not to adopt an innovation (Rogers, 2003, p.177).

• *Technology Acceptance Model (Davis, 1989)*

Davis on the work of Fishbein and Ajzen (1975) developed the Technology Acceptance Model (TAM) firstly, identifies the determinants that play a role in the acceptance of the general purpose computer. Secondly, consider a variety of behaviors to use computer technology and thirdly, to provide a parsimonious theoretical explanatory model (Davis, Bagozzi & Warshaw, 1989). This model therefore, seeks to provide a basis for tracing the impact of external factors on internal beliefs, attitudes and intentions. TAM advocates the usefulness and ease of use are the basis for the acceptance of the use of the computer.

Tornatzky, Fleicher, & Chakrabarti (1990) proposed a technology organization and environment (TOE) framework to identify the three aspects; i). Technological context which refers to existing technologies; ii). Organizational context addresses the descriptive measures of an organization such as scope, size, and resources available internally; iii). Environmental context refers to the aspects of how the organization conducts its business in an organization's context that influence the process by which it implements and uses technological innovation. Institutional theories posit that organizations face different pressures to conform to these share notions of appropriate forms of behavior in the university (Fowa, 2017). This study also explores pressures on HEIs to use e-mail communication in the context of Cameroon.

• *Management of Higher Education*

Management in the public higher education system in Cameroon is very unique and differs from most countries in Sub-Sahara Africa. Decentralization of governmental power has contributed to a more autonomous and place-based management system. Each higher education institution has a great power of decision-making and management strategies. Effective management criteria for computerization are a level of public satisfaction with service delivery, improvements in productivity and efficiency, and increased skill levels of higher education (HE) personnel in handling IT (Bodah & Bodah, 2017). Further, demonstrable leadership of HE in the use of ICTs is also a factor to be taken into account. Effective HE management must be accountable, transparent, and participatory (Daft, 1992). Turning the internal organizational systems of control and accountability in HEIs, there are other systems or sub-systems that all contribute to controlling the flow of activities and processes in HE organizations.

RESEARCH METHODOLOGY

(1) Research Design

This study was a mix methods, quantitative and qualitative analysis. In agreement with Amin (2005) a correlational study describes the important prerequisite for the realization of the regression (pp.139-140).

(2)   Population Samples:
The population constituted of the selected respondents MINESUP, University of Yaounde I, University of Maroua, and the University of Buea. The sample was done through a purposive sampling technique, which consisted of the personnel of the selected institutions of 816 respondents. A purposeful interaction through an interview and focus group discussion with 5 participants was conducted.

(3)   Instrument
Attitude scales were used primarily to collect quantitative data from the survey and qualitative data were collected using semi-structured interviews and focus group discussions. The questionnaire consisted of 20 questions constructed along the pattern of the Likert scale: strongly disagree (SD)= 1, disagree (D)=2, somewhat disagree (SWD)= 3, neutral (N)= 4, agree (A)=5, somewhat agree (SWA)= 6, strongly agree (SA)= 7, for HE personnel, based on the two variables of this research study: e-communication and effective management in higher education.

(4)   Techniques for Data Analysis
The data collected was analyzed using both descriptive and inferential statistics. The Spearman correlation was the tool used in testing the association between two variables and the SWOT analysis.

Spearman Correlation is expressed as:

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\sum \sigma^2_k}{\sigma^2}\right)$$

Where:
    D is the difference between the ranks of X and the corresponding ranks of Y
    n= the number of paired ranks.

(5)   Research Question
The research question that was investigated in this study was as follows: Does e-governance influence the management of state universities in Cameroon?

(6)   Validity and Reliability
To maximize the content and face validity of the magnitudes generated from the descriptive research, four tests were adopted and developed by Ying (2003). They include: (i) construct validity (multiple sources of data were collected for the case under investigation in order to increase construct validity), (ii) internal validity (we have maintained a logic chain of evidence; the reader can follow the derivation from any evidence from our research question to the final conclusion. More the triangulation of different sources (used in convergence) of evidence was an important way of increasing the internal validity of this study), (iii) external validity (we attempted it to sharpen the external validity in the way that we have chosen the case study and conducted the research. The findings from this study can be generalized and replicated if conducted in the same conditions) and (iv) reliability (It is the consistency and stability of the research process (Miles & Huberman, 2003). To avoid errors and provide more reliability to our research, this work is coupled with content analysis. This ultimately allowed us to extract some key ideas). The table below is the presentation of data according to the research question.

FINDINGS
(1)   Descriptive Statistics

TABLE 1: Information on e-governance and Cameroon Universities management.

Item	Statement		Responses							
			SD	D	SWD	N	A	SWA	SA	Mean
1	I use e-mail services on the internet or intranet to communicate with colleagues increase performance in higher education (HE)	f_1	45	33	82	21	79	292	264	5.44
		%	5.5	4.0	10.0	2.6	9.7	35.8	32.4	
2	I provide information to the right people in sufficient detail and time using social media to carry out their responsibilities efficiently and effectively.	f_1	50	54	88	98	98	335	177	5.06
		%	6.1	6.6	10.8	12.0	12.0	41.1	21.7	
3	I use the internet to communicate.	f_1	48	38	32	46	31	247	374	5.71
		%	5.9	4.7	3.9	5.6	3.8	30.3	45.8	
4	I use ICT in my institution to enhance effective communication and knowledge sharing.	f_1	22	39	29	18	13	301	394	5.99
		%	2.7	4.8	3.6	2.2	1.6	36.9	48.3	
5	I use zoom to attain conference, meeting and work directives.	f_1	--	--	37	84	75	295	325	5.96
		%	--	--	4.5	10.3	9.2	36.2	39.8	
6	I use skype to communicate with colleagues.	f_1	--	--	37	51	313	205	210	6.61
		%	--	--	4.5	6.3	38.4	25.1	27.7	

Item	Statement		SD	D	SWD	N	A	SWA	SA	Mean
7	I communicate with management through multiple channels of communication and is opened to all directions.	f_1	23	34	--	38	181	315	225	5.65
		%	2.8	4.2	--	4.7	22.2	38.6	27.6	
8	Most of the daily communication I receive comes via messenger most of the daily communication received comes via messenger in the form of directives from top-management to harnesses and improves administration.	f_1	--	--	99	99	187	211	220	5.43
		%	--	--	12.1	12.1	22.9	25.9	27.0	
9	In my institution, trust is an attitude that enhances effective communication and organizational performance between offices of HE	f_1	32	--	40	73	166	319	186	5.50
		%	3.9	--	4.9	8.9	20.3	39.1	22.8	
10	I use verbal/oral/unwritten e-communication as communication channels and means in HE	f_1	--	50	--	55	15	375	321	6.00
		%	--	6.1	--	6.7	1.8	46.0	39.3	
11	My institution effectively uses ICT to communication, practices are adaptable to emergencies for effective management of HE	f_1	--	121	--	107	203	280	105	5.02
		%	--	14.8	--	13.1	24.9	34.3	12.9	
12	I communicate with Management concerning duties and control responsibilities in an effective manner in HE	f_1	--	--	17	60	1	391	347	6.21
		%	--	--	2.1	7.1	.1	47.9	42.5	
13	Most of the information I receive on a daily basis is passed down through the grapevine	f_1	18	43	82	26	82	284	281	5.56
		%	2.2	5.3	10.0	3.2	10.0	34.8	34.4	
14	Informal communication in my organization is active and accurate for effective educational management in HE	f_1	--	--	--	31	--	521	264	6.25
		%	--	--	--	3.8	--	63.8	32.4	
15	I use Computer and software applications such as word processing, spreadsheets, PowerPoint to communicate for effective management of HE.	f_1	--	2	59	201	204	199	151	5.22
		%	--	.2	7.2	24.6	25.0	24.4	18.5	
16	Communication channels used in my institution are appropriate	f_1	34	119	81	110	42	240	190	4.82
		%	4.2	14.6	9.9	13.5	5.1	29.4	23.3	
17	My institution appears committed to keeping the channels of e-governance open	f_1	--	22	50	84	97	361	202	5.63
		%	--	2.7	6.1	10.3	11.9	44.2	24.8	
18	The information I receive from management is reliable	f_1	150	200	53	104	--	224	189	4.14
		%	18.4	24.5	6.5	12.7	--	27.5	23.2	
19	Most of the information I receive from my co-workers is detailed and accurate	f_1	20	79	37	45	75	327	233	5.44
		%	2.5	9.7	4.5	5.5	9.2	40.1	28.6	
20	I receive the information I need to perform my job in a timely manner	f_1	--	78	93	13	72	380	180	5.38
		%	--	9.6	11.4	1.6	8.8	46.6	22.1	

Source: (Field Statistics)

Table 1 that follows presents the information respondents gave on e-governance in the management of state universities in Cameroon. Item one is on the use of e-mail services on the internet or intranet to communicate with colleagues to increase performance in higher education. 5.5% (45) strongly disagreed, 4.0% (33) disagreed, 10.0% (82) somewhat disagree with the statement while 2.6% (21) were neutral and 9.7% (79) somewhat agreed, 35.8% (292) and 32.4% (264) agreed to the statement. The mean (5,44) is within the zone of acceptance. This implies that the respondents think that using e-mail services is a good communication means with colleagues that turn in increased performance in HE. Even though 181 expresses doubt and uncertainty because it is not all those know how to use intranet communication that could have been the reason for this high percentage. Item two shows the distribution of respondents according to the information provided to the right people in sufficient detail and time using social media to carry out their responsibilities efficiently and effectively. 6.1% (50) strongly disagreed, 6.6% (54) disagreed, 10.8% (88) somewhat disagreed 12.0% (98) remain neutral to the statement while 41,1% (335) agree and 21,7% (177) strongly accept the statement respectively. The mean of 5,06 falls within the accepted area, implying that the information provided through social media to the right people leads to efficient and effective HE. Item three is the distribution of respondents according to the use of the Internet to communicate. 30,3% (247) agree and 45.8% (374) strongly agree, 3.8% (31) were neutral, 3.9% (32) somewhat disagreed 4.7% (38) disagreed, 5.9% (48) strongly disagreed. The mean of 5.71 falls in the accepted sphere, implying that all the respondents that communication in HE is very essential for the smooth running of the institution and productivity using the internet.

Item four presents the distributions of respondents according to the use ICT in my institution to enhance effective communication and knowledge sharing. 301 respondents (36.9%) agree to the statement, 394 respondents (48.3%) strongly agree that ICT facilitates data storage. 13 respondents (1.6%) somewhat agreed, 18 respondents (2.2%) were neutral and 22 (2.7%), 39 (4.8%), 29 (3.6%) respondents respectively did not support the statement. This implies that the number respondents disagreeing with the statement are low. ICT is an adequate help for sharing knowledge. Yet the mean 5.99 still falls with the acceptance category. Item five presents the distributions of respondents according to the use of zoom to attain conference, meeting and work directives. 4,5% (37) somewhat disagree, 10,3% (84) remain neutral and 9,2% (75) somewhat agree, 36,2% (295) agree while 39,8% (325) responded in favour of the statement and the mean of 5,96 falls within the accepted region, meaning most of the respondents accepted the statement. Item six is the distributions of respondents according to the use of skype to communicate with colleagues. 4,5% (37) somewhat disagree, 6,3% (51) were uncertain while and 38,4% (313) support the statement. 25,1% (205) agree and 25,7% (210) strongly agree. The mean of 5,61 still falls within the region of acceptance. This implies that a strong governance with the flow of knowledge management is one of the best ways to utilize common knowledge resources for a more rapid delivery of solutions.

Item seven shows the distributions of respondents according to communication with management through multiple channels of communication and is open to all directions. 4,7% (38) were neutral, 22,2% (181) somewhat agree, 27.6% (225) and 38.6% (315) agree with the statement. 2.8% (23), 4.2% (34) respectively disagreed.

The mean of 5.65 is however found at the acceptance level. The majority of the respondents supported the statement meaning that, new technologies are prompting the managerial and commercial reshaping of the global business of HE administration through multiple channels of communication. These are presented as a co-terminus with the mechanisms of globalization and with this come the need for new forms communication. It is both presented as a cause and a consequent driver for change within HE. Item eight presents the distribution of respondents according to most of the daily communication received comes via messenger in the form of directives from top-management to harnesses and improves administration. 12,1% (99) somewhat disagree, 12,1% (99) prove neutral with the statement, 22,9% (187) somewhat agree, 25,9% (211) agree and 27,0% (220) strongly agree respectively with the statement. The mean 5,43 falls in the acceptance level, meaning that most of the respondents agree with the statement. Even so, some 12,1% of the respondents claimed to somewhat disagree and neutral about this. This implies that daily communication received comes messenger in the form of directives from top-management of HE to harnesses and improves higher education management and administration even though many were uncertain about it.

Item nine shows the distribution of respondents according to an institution that shows that trust is an attitude that enhances effective communication and organizational performance between offices of HE. 3,9% (32) strongly disagree, 4,9% (40) somewhat disagree with this statement while 8,9% (73) neutral, 20,3% (166), 39,1% (319), 22,8% (186) agree to this respectively. The mean of 5,50 falls within the acceptance region meaning that most of the respondents agree with the statement even though many of them were neither. Item ten shows the distribution of respondents according to the use verbal/oral/unwritten communication as communication channels and means in HE. 6,1% (50) disagree 6,7% (55) express neutrality while 1,8% (15) somewhat agree, 46,0% (375) agree and 39,3% (321) agree with this statement respectively while the mean is 6,00 found at the acceptance level most of the respondents supported the statement. Item eleven presents the distribution of respondents according to communication practices being adaptable to emergencies for effective management of HE. 14,8% (121) disagree while 13,1% (197) neutral with the statement as 24,3% (203) somewhat agree, 34,3% (280), and 12,9% (105) express agreement with the statement. According to the data, the mean of 5,02 falls with acceptance category. This means that the majority of the respondents were in agreement with the statement even though 14,8% disagree and 13,1% remain uncertain.

Item twelve shows the distribution of respondents according to communicating with management concerning duties and control responsibilities in an effective manner in HE. 2,1% (17) somewhat disagree, 7,4% (60) express uncertainty while ,1% (1) somewhat agree 47,9% (391), 42,5% (347) express agreement with the statement and the stood for 6,21 falling with acceptance region. This similarly means 17 of the respondents disagree and 60 were neutral with the statement. It also means that many staff at the university communicates concerning duties and control responsibilities. Item thirteen presents the distribution of respondents according to most of the information received on a daily basis is passed down through the grapevine. 34,4% (281) strongly agree, 34.8% (284) agree while 10.0% (82) express somewhat agreement with the statement. 2.2% (18), 5.3% (43), 10.0 % (82) respectively disagreed.

Base on this, the mean stands at 5,56 which is within the acceptance zone. Most respondents accepted the statement and many expressed disagreement to information is received on a daily basis is passed down through the grapevine. Item fourteen is the distribution of respondents according to informal communication in organization is active and accurate for effective educational management. 3,8% (31) express a position of neutrality while 63,8% (521) and 32,4% (264) respectively agree with the statement. The mean of 6,25 is within the acceptance category. Therefore, most respondents accepted and many disagree with the statement.

Item fifteen presents the distribution of respondents according to the use computer and software applications such as word processing, spreadsheets, PowerPoint to communicate for effective management of HE. ,2% (2) disagree, 7,2% (59) somewhat, 24,6% (201) were neutral, 25,0% (204), 24,4% (199), 18,5% (151) responded respectively in favour of the statement. The mean of 5,22 is within the acceptance zone. This means that the respondents who use computer and software application to process information in HE are high. Even though 201 respondents were neutral. Item sixteen shows the distribution of respondents according to e-communication channels used in an institution are appropriate. 4,2% (34), 14,6% (119), 9,9% (81) respondents did not respond in favour of the statement while 13,5% (110) were neutral as 5,1% (42), 29,4% (240), 23,3% (190) agree with the statement. The mean of 4,82 falls within the acceptance zone. Most of the respondents accepted. Yet a great number of the respondents disagreed and others expressed neutrality. This implies that a great number of the respondents do not use all the communication channels properly. Item seventeen shows the distribution of respondents according to an institution that appears committed to keeping the channels of communication open. 2,7% (22) disagree, 6,1% (50) somewhat disagree, 10,3% (84) remain uncertain maybe because communication channels are not kept open. 11,9% (97), 44,2% (361), 24,8% (204) respectively agreed with the statement. Based on the data, the mean is 5,63 found at the acceptance level.

This means that most of the respondents supported the statement. Item eighteen is the distribution of respondents according to information received from management is reliable 18,4% (150) strongly disagreed, 24,5% (200) disagreed, 6,5% (53) somewhat disagreed with statement while 27,5% (224) agreed and 23,2% (189) strongly accepted the statement. The mean 4,14 falls at the acceptance category. It means that greater numbers of the respondents received information is not reliable. This justifies the reason why this number disagreed to the statement. Item nineteen shows the distribution of respondents according to most of the information received from co-workers is detailed and accurate. 2.5% (20), 9.7% (79), 4.5 (37) respondents not respond in favour of the statement while 327% (40.1) agreed, 9.2% (75) somewhat agreed and 28.6 (233) strongly agreed. The mean of 5,44 falls within the acceptance zone. Most of the respondents accepted. Yet a great number of the respondents 136 disagree probably because on the daily base information received from the co-workers is not detailed. Yet, the majority received information that is accurate. Item twenty shows the distribution of respondents according to the received information is needed to perform a job in a timely manner. 9,6% (78), 11,4% (93) respectively disagreed, 1,6% (13) were neutral while 8,8% (72), 46,6% (380), and 22,1% (180) agreed with the statement. Based on the data, the mean is 5,38 found at the acceptance level. This means that most of the respondents supported the statement.

(2)   Inferential Statistics
(3)   Hypothesis

Ha: E-governance influences Cameroon universities' management.

Ho: E-governance does not influence Cameroon universities' management.

TABLE 2: Correlation between e-governance and Cameroon universities' management.

Correlations			E-governance	Cameroon Universities' management
VI x VD			**E-governance**	**Cameroon Universities' management**
Spearman's rho	E-governance	Correlation Coefficient	1,000	.832**
		Sig. (2-tailed)	.	.000
		N	816	816
	Cameroon Universities' management	Correlation Coefficient	.832**	1,000
		Sig. (2-tailed)	.000	.
		N	816	816

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation Table 20 exposes that the relationship between e-governance and Cameroon universities management is positively significant. This is because the level of significance is 0.00 thus lesser than 0.05, which is the alpha level which is the standard error margin. On the other hand; the correlation coefficient (0.832) is a positive value and is situated within the normal range. It is high and close to 1, indicating that there is a strong link between variables under investigation. The results reveal that we have no chance of making an error if we accept that the association between the variables exists. We can therefore conclude that e-governance significantly influences the management of state universities in Cameroon.

Citizens have the right to information, freedom of opinion and expression therefore, public institutions are obliged to communicate with its actors (FGD, April 7, 2019).

(4)   New Ways of Managing Higher Education Through Qualitative Analysis
Looking at diffusion innovation theory, the management of HE has fundamentally changed from a classical form of regulation dominated by a single actor, the state, to form in which various actors at various system levels coordinate the system.

Autonomy of the Higher Education*:* Autonomy is among the most important elements of NPM. There are structures and policies which address the autonomy of HE. Respondent 4 explains this in saying, *the autonomy of higher education has been documented and explained which gives local government authorities the power to control higher education and formulation of university bodies* (Interview, April 2, 2019). However, the HE depends on other sectors to operate. In order to get resources and other supports, the sector depends on several decisions from different sectors. Respondent 3 comments that, *in reality, autonomy is not practical and some policies are still needed to address this challenge* (Interview, April 5, 2019).

Accountability Systems of Higher Education: The systems of accountability are another issue that emerged as one of the ways of managing education HE. The findings revealed that accountability helps to ensure good performance of universities and that the overall investment is worthwhile. Yet respondent 4 had a different view: The systems of accountability particularly administrative structures are so weak probably because of weak coordination. The sector is supervised by MINESUP and many more authorities. This has caused a lot of problems including overlapping of responsibilities (Interview, April 2, 2019).

It is clear that HEIs are accountable to many players, while the reporting mechanism is confusing (Interview, April 3, 2019). This is because HE officials are appointed by a higher authority, to which they are accountable (FGD, April 7, 2019).

Auditing: Generally, it is a requirement for the public funds to be accounted to the people in order to ensure prudent use. The findings reveal that *the citizens have the right to see the way their contributions are used and must ask questions about the progress of institutions* (FGD, April 7, 2019). However, *the citizens do not have legal powers to audit the state universities* (FGD, April 7, 2019). The powers to audit state universities are vested in the auditors only. Internal auditing is part of the internal control system established by top management of state universities. Respondent 5 says that, *internal auditors are part of the management in ensuring that the authority complies with stipulated rules, regulations and procedures and the funds are properly used to accomplish the intention of several projects* (Interview, April 8, 2019).

On the frequency of auditing, prescribed laws require the internal audit to be conducted on a quarterly basis, while external audits are to be at least once per annum. It is also revealed that *in most cases internal auditing in HE is done once or twice per annum* (FGD, April 7, 2019). Respondent 3 says that, *we have an annual audit plan which guides us throughout the year. This is like a schedule, which tells us where to audit, why, how and when* (Interview, April 5, 2019). Respondent 2 says: When funds are allocated in institutions, the responsibility of the auditor is to check whether the funds were used wisely or not. Normally internal auditors are the first ones to audit the institutions and external auditors come thereafter (Interview, April 3, 2019).

When auditing auditors are guided by procedures and check compliance of these procedures. Respondent 5 said: Everything has to be audited; we audit projects and compliance of procedures in the procurement of materials. Also, the value for money is verified through documents such as requisition orders to see if they are reflecting quality. The value for money is also ascertained by looking at what has been purchased if it is worth the value compared to the amount of money spent (Interview, April 8, 2019).

It means that internal auditors ascertain quotations from suppliers, invoices, payment vouchers, local purchasing orders and minutes of meetings. This is to confirm if expenditures were approved through appropriate meetings. However, in case of any red spots or any unusual findings or incomplete documentation, the discussion between institution and auditors is tabled and both parties give their suggestions on how to improve the situation. If the case is complicated, then a special task has to be conducted immediately. Respondent 1 adds that, *sometimes auditors may recommend disciplinary actions to be taken by higher authority if they are completely dissatisfied with the nature of queries at institutions* (Interview, April 4, 2019).

Respondent 1 adds:
> In case where some documents are not found or are missing, the auditee is given time to locate them. In case of any opinion or query the auditee is given time to respond to the queries. If the answers satisfy auditors, then the query is either closed or withdrawn. Or if the answers do not satisfy the auditors then the case is carried forward to the top management and the auditor advises the management to carry out a further investigation by formulating a committee of experts. In case of a serious violation of procedures, the case is recommended to court or for further investigation by police (Interview, April 4, 2019).

This is why internal auditors are required to conduct an effective audit and prepare regular reports as per the local government financial memorandum. The rationale is to have a thorough auditing practice.

Strategy use of ICTs: Analysis shows that strengths are the "internal positive aspects" of a strategy use of ICTs in HE. It is with this that we "*build in the future and higher education organization through e-governance transformation*" (FGD, April 7, 2019). Like all innovations, the use of ICTs has strength in higher education effective management. Concerning the question on what is e-governance policy in higher education?

The quality of our higher education system has to be improved to make these institutes really word class, and then there is no alternative to the introduction of e-governance in this sphere at the fastest possible pace. Implementation of e-governance enables effective and real time monitoring by government/the regulatory bodied and other stakeholders their own managements and the society, thereby forcing them to maintain quality and become more responsible. E-governance process brings transparency in the system, so e-governance initiatives in the field of higher education reduce corruption up to a large extent (FGD, April 7, 2019).

As the participant explains the importance of higher education improvement, e-governance in HE allows the use of ICTs with the aim of improving HE management, improve information, service delivery, participation in decision making process, making administration transparent and enhances efficiency. Another participant ego that, in terms of its mission while answering the question of what is the relevant mission of e-governance in higher education?

It is to establish a networked environment for greater transparency and accountability in delivery of public services to facilitate moral and material progress of all citizens to make higher education more efficient by increasing the accountability and transparency of higher education, deliver information and services to constituents more conveniently, allowing more to be done for more people, increasing citizen participation in governance.

The point essentially is to deploy ICT to drive efficiency and transparency in the system and improve the quality of public service delivery (FGD, April 7, 2019).

Through implementation of e-governance in every academic institution, the real time information processing and knowledge management of the institution is made possible. E-governance becomes an integrated solution that facilitates the processing and maintenance of large volumes of information including inventory, asset management, facility management, transport, and staff details. During the discussion, one of the participants said: E-governance incorporates the latest technology to bring a system that combines administrative and university management functions that are necessary for successful handling of all issues relating to the academic affairs and the challenges for smooth functioning of an educational organization (FGD, April 7, 2019).

It is a great opportunity for all administrators and knowledgeable in organization to enrich their collective wisdom through this holistic approach. The mission is also necessary to sustain a high growth rate of economy through the capacity building and knowledge empowerment of the people and for promoting new, upcoming multi-disciplinary fields of knowledge. At the discussion, some negative aspects were highlighted to hinder an organization.

In contrast to strengths, weaknesses are the internal negative aspects but which are also controlled by the organization, and for which significant margins of improvement exist. Weaknesses appear on the prioritization of limit innovation and the difficulty of integrating a new project in an institution as pointed by the FGD that, Administrative staffs require skills to some extent of workflow. These staffs have to pay more attention to formal control and the speed of service in a very different electronic way rather than the familiar paper-based workflow and also high infrastructure and startup costs, the initial costs to build ICT systems and to maintain them are very high (FGD, April 7, 2019).

The weaknesses term from the actors (administrators) involvement. The question to how involve is the actors in the affairs of higher education? The FGD notes that: Leaders do not want to adopt behaviours conducive to e-governance in higher education for a number of reasons including the non-mastery of ICTs, the fear of cybercrime (insecurity), the lack of adequate infrastructure, lack of adequate technical expertise to implement the approved strategy, and sometimes resistance to the adoption of new technologies that brings transparency and thereby inevitably reduce corruption and other bribes in the administration (FGD, April 7, 2019).

Higher education is a strong set of assets for Cameroon; the institutions must have adequate resources, sound organizational structures and a vibrant intellectual community in order to continue to fulfill the obligations in the twenty-first century. Experts are unanimous that in most cases, top management support is not really present. Additionally, the FGD adds that, *there is an absence of a broad point of view which looks for general wellbeing of the organization as a whole rather than being too much concerned about the effects of changes in methods on particular vested interests in the organization as is the case today in Cameroon* (FGD, April 7, 2019). Lack of adequate and accurate planning at the beginning stages of an e-governance project in HE due to inadequate resources, absence of clear goals, lack of engagement by some stakeholders are amongst some of the managerial aspects that influence coordination and management.

DISCUSSION

Data collected on this hypothesis was tested using the spearman rank correlation and multiple regression analyses. From the results, it was discovered that e-governance can significantly influence effective management of higher education. Statistically the spearman rank correlation index, was 0. 832, which is a positive coefficient and reveals that the relationship between e-governance and effective management of higher education is high and positive. Alternatively, looking at the level of significance of 0.00, we can conveniently conclude that there is no error in admitting that e-governance can very positively influence management of state universities.

Our field statistics led us to the conclusion that e-governance can be used to positively influence management of state universities in Cameroon. Most of our respondents (79,292 and 264) agreed, somewhat agreed and strongly agreed respectively that the use e-mail services on the internet or intranet to communicate with colleagues increase performance in state universities. Concerning the use, the internet to communicate, 374 and 247 respondents also strongly agreed and agreed that test items often recaptured taught in communication. The use ICT in my institution to enhance effective communication and knowledge sharing, 394 and 301respondents respectively strongly agreed and agree. Even though 39 of them disagreed. The application of ICT in education has gained popularity and this has led to changes in the way educational institutions carry out activities and processes for effective management not only in teaching and learning process or monitoring of students' progress (Njebabal & Teneng, 2017, Tchombe, 2006)) but it has also had an impact in educational administrative processes and management of higher educational institutions. ICT is used to enlarge its extent in academic affairs, research affaires, administrative and financial affairs (Kayiwa Shafik Juma, Raihan & Clement, 2016). ICT is used at high level in supervision and evaluation of academic affairs and administrative affairs (Boski, 2017).

TAM advances the intention that determines the use of this technology. However, the first model of TAM postulates that intention is itself determined by attitude of the person who deals with system use and usefulness. The relationship between attitude and intention to use a new system is represented in this model. It implies that, other things being equal, individuals form their intention to issue a behavior from a positive affect that they endure (Davis, et al., 1989). Easiness to communicate by e-communication systems further influences the adopters to deepen their use of those technologies (Abodohoui et al., 2014). E-governance is associated to several dimensions that are associated to diffusion innovation and (TAM). These dimensions are organizational dimension, sociocultural dimension and individual dimension.

The use of ICT in governance processes and by the governments is mostly centered in the deployment of ICT applications and solutions to streamline governments operations, reduces transactional costs and increase transparency of public institutions especially universities (Zambrano, 2010). With ICTs having taken centre stage in the present information era, this access is increasingly and perhaps optimally made possible via electronic services (e-services) (Sindeu, 2013). ICT offers many opportunities to improve systems (Davis, 1989). Since the mid-1990s, ICT has raised to the forefront of discussion related globalization and development in economics, sustainable and humans (Zambrano, 2010) which is the potential enabler for development.

Overall, e-mail is viewed as a communications tool enhancing productivity, effective management and competitive intelligence. But in Cameroon instance, this technique of communication is not yet well known and there are factors that do not facilitate the implementation of e-mail in the universities.

CONCLUSION

The research showed that different universities have different strategies for the adoption of ICT policies and practices. They also have different corporate culture which is aggregating individual behaviour that affects the management these universities. The findings also suggest that the best policy may be to start using e-communication in different universities continuously and it will help civil administrators, managers and citizen to get acquainted with the new system. The results of this study can be used to reinforce e-governance and effective management in HE and keep the public administration within the easy reach of its citizens. It enables the governments to offer better public services. ICTs are understood as a resource with the potential to improve the efficiency and effectiveness of public administration.

E-governance have received little critical attention. Although there are some articles about e-mails, there is very little scholarly research in communication, organizational behavior or public relations and especially in Cameroon. Governments must introduce new technology for e-security, and must also implement the code of ethics and deontology in respect of ICT in the workplace. The advent of e-mail has created a modern social space in which persons, personnel and administrators can interact with each over. The spectrum of e-mail communication is enormous. It provides faster access to government information, lower administrative cost and increase transparency in government departments, reduces bribery and corruption. In Cameroon, the advantages of the electronic message are well known, but circumstantial and laudable policies are slow to fill the gap despite the computing resources available to the country.

FUTURE RESEARCH

Empirically, the heterogeneity of the background of the manager that we have interviewed caused certain level of interpretation because they have been abroad to study and know more about usage of ICT. It implies that results of this study are not generalizable to all developing countries or to all West African countries. Future research needs to analyze the impact of the implementation of e-governance and management of state universities with larger samples. All development actors (government, institutions, development partners, private sector, and individual) must be mobilized to top actions and strategies for success. E-mail gives some prestigious opportunities to employees, managers and enhances the country's economy.

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