



## Online academic record management system and students' academic achievement: The example of the University of Bamenda, Cameroon

**Nubonyin Hilda Fokong**

*Faculty of Education, The University of Bamenda, Cameroon*

Email: [hfokong@gmail.com](mailto:hfokong@gmail.com)

**Afegenui Tangang Kizito**

*Faculty of Education, The University of Bamenda, Cameroon*

Email: [afegnuikizito@yahoo.com](mailto:afegnuikizito@yahoo.com)

### Abstract

The study investigated the online academic record management system and students' academic achievements in The University of Bamenda-Cameroon. Two research questions and two hypotheses were formulated to guide the study. The theory of diffusion of innovations by Rogers (1962), and theory of connectivism in learning by Siemens (2004) and Downes (2022) were considered useful for the study. The cross sectional-survey research design was used. A population of 300 students from two schools and two faculties and 100 staff selected across the university constituted the sample size of the study. The simple random sampling technique was used. The data was collected using questionnaires. The instrument was validated using 10 students and staff outside the study area. A Cronbach's Alpha reliability of 0.87 was obtained which made the instrument consistent and was therefore considered suitable for the study. The research questions were analyzed using descriptive statistics and the hypotheses were tested with analysis of variance (ANOVA) statistical technique at 0.05 alpha level. The results showed that personal information management had a significant positive effect on students' academic achievement. The results also showed that academic record management had a significant positive effect on students' academic achievement. The main implications of the results are that any innovations in the curriculum of higher education will increase students' academic achievement. University management must therefore reinforce the application of the diffusion of innovations theory. Efforts to fight mismanagement of records should be accompanied by strategies to promote acquisition of skills in online academic record management. This put together can foster personal information management, academic record management and promote students' academic achievement in The University of Bamenda.

### Keywords:

Online, academic record, management system, students' academic achievement.

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## INTRODUCTION

In higher educational organizations such as private universities and public universities and generally everywhere else in the Cameroonian society, it has gradually become almost impossible for students records to be managed on paper without misplacement, damage, theft or any other mishap. Despite some stringent measures taken by managers in universities to curb the ever-increasing rate of poor management of records, in public universities as is the case, it is regrettable that the vital documents that contain students' academic records such as students' admission file, admission letters, payment records, medical records, continuous assessment records, examination scripts, examination results, and so on, are seemingly poorly managed in most faculties and schools.

According to Djouguela and Mbeudeu (2024) poor management of academic records in Cameroon state universities are steadily on the rise. The incessant increase in the rate at which records are poorly managed in public universities across the breadth of African universities has provoked scholars to embark on an unending chain of research with the singular objective of providing solutions for a complete eradication of these mishaps in our public universities. This is because whenever recommendations are made towards the eradication of poor management of records in the university, head of departments, lectures and students as well as managers in admission, academic and record office, on their part take no time to develop new strategies to combat those recommendations. However, university management has learnt never to relent but to constantly double its effort in deriving its own new methodologies and strategies to counteract poorly established procedures that may lead to loss of university's record and loss of students' achievements. It is for this reason that this study was commissioned to investigate the innovative methods put in place by management in The University of Bamenda in order to handle the seemingly increasing academic record mismanagement recorded therein.

## THE PROBLEM

Evidently, mismanagement of students' academic records is actually increasing at a spectacular and frightening rate in all faculties and schools in public universities. This tends to influence the academic performance of students both male and female. Among some factors such as procedures for managing academic records, challenges associated with management of students' academic records, the application of new methods such as online academic record management system, inadequate preparation for an imminent shift from the use of paper-based to online records and lack of digital resources also act as obstacles to students' academic achievement in Cameroon state universities. To this position, effective academic record management among which include online academic record management system, online registration, as well as, online students' academic record management are adopted and implemented, all in an attempt to improve record management and students' academic achievements for the current generation and the generation yet unborn. This of course is of absolute necessity given that online records are important historical and legal tools that are necessary for the smooth running of The University of Bamenda in particular.

This is why comprehensive records management policies and practical standards are signed and recognized. For example, in 2005 Cameroon signed the Libreville Declaration which focused on the importance of educational technology in achieving higher education goals of Central African Economic and Monetary Community (CEMAC) sub-region (UNESCO, 2020). Since then, the government through the Ministry of Higher Education in Cameroon has recognized the potential benefits of innovations in education and has focused on promoting digital transformation in higher education as one of her objectives (Maguatcher& Ru, 2023). Such initiatives are often viewed to have multidimensional effects on students' academic achievement in particular and the economy as a whole. As noted by Maguatcher& Ru (2023), a successful management of curriculum innovations in education must tackle educational technology problem like digital infrastructure, internet access and teaching methods because they affect management of online record and students' learning in Cameroon's higher education institutions.

The management of online records generally requires educational managers in state universities to improve investment in digital infrastructure and internet access so as to enhance learners' engagement and academic performance. However, in the University of Maroua, Yaounde I and II, while educational managers bear most of the cost of digital infrastructure from their national budget, there is still a gap of approximately 65.45% (Maguatcher& Ru, 2023). To further compound this problem, Maguatcher& Ru (2023) argued that educational managers of Cameroonian universities lack an understanding of the importance of digital infrastructure and they equally lack vast experience in digitalization. This assertion holds somewhat true in The University of Bamenda. This implies that, providing digital infrastructure that meet the demand of higher education objective of technological innovations in education is one of the major challenges faced by state universities in Cameroon.

However, the magnitude of the factors hindering innovations in education may differ across different state universities in Cameroon. Interestingly, this difference can be attributed to a myriad of factors such as educational managers organization and preservation of online registration, students' profile management as well as, online students' academic record management and students' academic achievement. Teachers lack of knowledge on the use of online communication, collaboration, learning and management platform constitute some of the drawbacks related to students learning outcomes in The University of Bamenda (Fokong, 2024). Therefore, it becomes an obligation for this research endeavor to investigate the extent to which online academic record management system affects students' academic achievement in The University of Bamenda.

## **Research Questions**

1. How does personal information management affect students' academic achievement in The University of Bamenda?
2. What are the effects of the online students' academic record management on students' academic achievement in The University of Bamenda?

## Research Hypotheses

**H0<sub>1</sub>:** There are no significant effects of personal information management on students' academic achievement in The University of Bamenda.

**Ha<sub>1</sub>:** There are significant effects of personal information management on students' academic achievement in The University of Bamenda.

**H0<sub>2</sub>:** There are no significant effects of the online students' academic record management on students' academic achievement in The University of Bamenda.

**Ha<sub>2</sub>:** There are significant effects of the online students' academic record management on students' academic achievement in The University of Bamenda.

## LITERATURE REVIEW

In the academic setting, record management is focused on university records. Gary (2014) stated that academic record management system (ARMS) is a software developed and used to manage all academic records electronically in an academic institution. ARMS is responsible for managing students' personal information as regards online registration and students' academic records. Thus, Jones (2007) referred to personal information management as a situation when individuals are engaged in activities which enable them to create, store, organize, maintain, retrieve, use and distribute information. According to Greeshma (2010), personal information management is a website that provides students an easy, simple and efficient manner of filing their program of study. He observed that students and faculty are key participants in the process of personal information management. Specifically, students can actually create an account, login, update their personal information, select program option (either thesis or non-thesis), select courses (either core or non-core), edit their profile, view it and logout. Similarly, faculty member can create an account, login, enter student's identification, view student's profile, approve program of study and logout (Greeshma, 2010).

In every institution of higher learning, students' academic record management contains the courses registered by a particular student, credit hours of the courses, lecturers assigned courses and total credit units (Gary, 2014). This means that the purpose of keeping academic record is to enable the academic record managers to know how to effectively plan lectures, test, examination, attendance and prepare results (Gary, 2014). Furthermore, the benefit of academic record is derived when the performance outcomes or information that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments, specifically in school, college, and university are properly managed (Steinmayr & Wirthwein, 2014; Ukaogba & Nwankwo, 2020). Therefore, academic achievement is of paramount importance in the teaching-learning process (Bhat & Hemant, 2015).

Technology has become an innovation that is diffusing into the higher education curriculum. Theoretically, Rogers (1962) diffusion of innovations theory is the most appropriate for investigating the adoption of online academic management system into the curriculum of

higher education. According to Dearing and Cox (2018), the diffusion of innovations theory stated that, diffusion is a social process that occurs among people in response to learning about an innovation communicated through certain channels, over time among the members of a social system. The theory assumes that new ideas and technologies spread through a culture (El Malouf & Bahemia, 2023). This implies that the social and communication structure of the system facilitates or hinders the diffusion of innovations in the system (Rogers, 2003). In order for the diffusion innovations theory to be applicable in The University of Bamenda, there are five processes it must go through: First, the higher institution of learning exposes students and faculty members (lecturers and academic record managers) to the online academic management system. This exposure enables them to acquire knowledge. Second, with the passing of time, these individuals become interested in using ARMS and they try to learn more about it. Third, with the persuasion these individuals decide to use ARMS. Fourth, these individuals actually use personal information management and students' academic management. Fifth, the innovation is continuously being used by individuals because it is effective for digitally managing all information pertaining to a student's academic activity ranging from bio-data, registration details, lecture details, continuous assessments and examination results; cumulative grade point average, transcripts, certificates, among, and so on. This theory is related to this study in that, it helps students, lecturers and academic record managers to understand why and how to shift from paper-based management of record to online academic record management.

Similarly, connectivism learning theory (Siemens, 2004; Downes, 2022) stated that technology provides opportunity for people to make choices about teaching and learning. The theory assumed that, knowledge existing beyond the individual is as a result of the connections and the way information flows. Learning becomes the ability to tap into significant flows of information through social media, online networks, blogs or information databases (Siemens, 2004; Downes, 2022). Connectivism theory is relevant to this study because it promotes group collaboration and discussion thus allowing for different viewpoints and perspectives when it comes to decision-making, problem-solving, and making sense of personal and academic information stored online.

Empirically, Falolo, et al. (2022) used a descriptive-evaluative design and simple random sampling technique to evaluate the extent to which student registration and records management services are fundamental elements of the planned academic record digitization. Data for the study was collected via questionnaire. The Kruskal Wallis test showed that there are no significant mean differences between student registration and records management services and planned academic record digitization regardless of the respondents' age, gender and programs enrolled. Falolo, et al. (2022) further argued that student registration and records management services like students' recruitment ( $M=4.22$ ), student admission ( $M=4.19$ ) and student record ( $M=4.16$ ) were the most effectively managed as opposed to student liaison/external assistance ( $M=4.10$ ) and student academic record ( $4.10$ ) that were least effectively managed. Their findings further indicated that, the problems encountered with the implementation of student registration and records management services was the lack of admission requirements record and non-observance of enrolment schedule. Therefore,

digitalization of students' registration and records was highly recommended by Falolo, et al. (2022).

Kearns, et al. (2014) used a survey research design and examined the way people manage record through e-mail, computer desktops, web-based information, and learning management systems. Based on the findings they stated that, personal information management was a serious challenge for many computer users. They identified filter failure rather than information overload as the key issue in information management. To reduce the magnitude of this problem, they suggested that the faculty should be encouraged to explore and experiment not only with technologies, but also methods and approaches for organizing and retrieving information. Moreover, new programs should be designed and developed to familiarize faculty with personal information management issues and solutions.

In Nigeria, Okon, Umoren and Philips (2023) investigated the importance of academic record management system in maintenance of students' academic records. Their findings revealed that effective management of online academic record saves time for checking and retrieving of any academic record, secures academic record from natural disaster, mutilation, destruction of any kind and theft, easy verification of results and other delicate records from any point by authorized personnel. However, Okon, et al. (2023) also asserted that ineffective management of academic record may be caused by inadequate infrastructure (like good computers, power, backup systems, etc.), lack of trained personnel and adaptability by personnel who were already used to manual system and find it difficult to adapt. Similar, Durosaro (2022) study stipulated that to effectively manage academic records student should have the capacity to enter results, analyze results and set the result for access and viewing. Also, at the end of the study period, the student should be able to view the result and transcript. The records officer and system analyst should be able to access results and prepare transcripts to be sent to any institution that requires same electronically or by post depending on where it is sent to and the preferred format.

## METHODOLOGY

This study adopted the cross sectional-survey research design. The design was appropriate because it facilitated the collection of quantitative data from a large number of students within a short period of time, using structured questionnaire. This study was carried out in the University of Bamenda, situated in Tubah Sub Division, Mezam Division, North West Region of Cameroon. The university went operational from 2011 as the second English-Speaking University in Cameroon after the University of Buea. It began with the Higher Teachers Training College and the Higher Technical Teachers Training College, but today it has up to 12 establishments: six schools (The College of Technology, The Higher Institute of Commerce and Management, The Higher Institute of Transport and Logistics, The Higher Teachers' Training College, The Higher Technical Teachers' Training College and National Higher Polytechnic Institute) and six faculties (Faculty of Arts, Faculty of Law and Political Science, Faculty of Economics and Management Science, Faculty of Education, Faculty of Health Science and Faculty of Science). It is purely Anglo-Saxon university where

instructions are delivered strictly in English language. This area was chosen because the curriculum incorporated the online academic record management system.

The accessible population was made up of 7,343 third year undergraduate students drawn from the College of Technology, Faculty of Education, Faculty of Science and Higher institute of Commerce and Management for the 2024/2025 academic year. Moreover, the accessible population was equally made up of 399 staff from these establishments and other record management services in the university for the 2024/2025 academic year. From the accessible population the sample size of 300 students and 100 staff was arrived at using the Krejcie and Morgan (1970) table. The study employed a probability sampling technique, specifically simple random sampling, to select 4 out of 12 establishments; as well as to select 75 students from each establishment.

The instrument was validated using 10 students and staff outside the study area. A Cronbach's Alpha reliability of 0.87 was obtained which made the instrument consistent. A total of 400 questionnaires were retrieved from the respondents giving a retrieval percentage of 100. The data collected was analyzed using descriptive and inferential statistics. The research questions were presented using frequency distribution tables and hypotheses were tested with Analysis of variance (ANOVA) statistical technique at 0.05 alpha level.

## PRESENTATION OF FINDINGS

This section presents the findings of the statistical analysis according to the research questions and hypotheses.

**Research Question 1:** How does personal information management affect students' academic achievement in The University of Bamenda?

Table 1: Students responses on personal information management and students' academic achievement

	N	Positive Responses		Negative Responses		Mean	Std.
		SA+A	%	D+SD	%		
My private student account enables me to access my academic records easily.	300	284	94.7%	16	5.3%	3.27	.821
My HOD uploads my courses online early enough for course registration.	300	249	83.0%	51	17.0%	3.58	.677
I am evaluated only on the courses that I have registered as indicated on my form B.	300	284	94.7%	16	5.3%	3.19	.855
I can monitor my academic progress.	300	252	84.0%	48	16.0%	2.01	.954
I am free to register as many courses as I want.	300	74	24.7%	226	75.3%	1.85	1.009
My end of semester exams marks can be processed without online CA Marks.	300	77	25.7%	223	74.3%	1.94	.903
My online course registration problems are resolved without delays.	300	73	24.3%	227	75.7%	3.51	.652
Multiple Response Set	300	185	62%	115	38%	1.76	.839

The findings in table 1 revealed that 284(94.7%) of the students agreed that their private account enables them to access their academic records easily while, 249 (83.0%) of students agreed that their Head of Department (HOD) uploads their courses online early enough for course registration. Furthermore, majority 284 (94.7%) and 252 (84.0%) of the students agreed that they are evaluated only on the courses they have registered and that they can monitor their academic progress. Moreover, the findings indicated that 226 (75.3%) of the students disagreed that they are free to register as many courses as they want; 223 (74.3%) of them disagreed that their end of semester exams marks can be processed without online continuous assessment marks and 227 (75.7%) of them disagreed that their online course registration problems are resolved without delays.

Table 2: Staff responses on personal information management and students' academic achievement

	N	Positive Responses Agree	%	Negative Responses Disagree	%	Mean	Std.
Only HODs have access to students' program of study.	100	55	55.0%	45	45.0%	2.86	.995
HOD uploads courses online early enough before course registration deadline.	100	60	60.0%	40	40.0%	2.84	.813
Students study and get evaluated only on the courses they register as shown on their official form B.	100	81	81.0%	19	19.0%	3.29	.795
Students' academic progress is easily monitor through the students' account by the concerned service.	100	80	80.0%	20	20.0%	3.02	.765
Students study only the courses uploaded by their HOD as per their program of study.	100	89	89.0%	11	11.0%	3.16	.775
Students' end of semester exams marks can be processed without online CA Marks.	100	31	31.0%	69	69.0%	2.00	.910
Students' online course registration problems are resolved within 48hours	100	37	37.0%	63	63.0%	2.18	.809
Multiple Response Set (MRS)	100	62	62%	38	38%	2.76	0.838

The findings in table 2 showed that 55.0% of the staff agreed that only Head of Departments (HODs) have access to students' program of study while, 60.0% of staff agreed that HOD uploads their courses online early enough for course registration. Furthermore, 89.0%, 81.0% and 80.0% of staff agreed that student's study only the courses uploaded by their HOD as per their program of study, they study and get evaluated only on the courses they have registered as shown on their official form B and that their academic progress is easily monitored through their account by the concerned service. However, 69.0% of staff disagreed that students' end of semester exams marks can be processed without online continuous assessment marks. Furthermore, 63.0% of them disagreed that students' online course registration problems are resolved within 48hours.



**Research Question 2:** What are the effects of the online students' academic record management on students' academic achievement in The University of Bamenda?

Table 3: Students responses on online students' academic record management and students' academic achievement

	N	Positive Responses		Negative Responses		Mean Std.	
		SA+A	%	D+SD	%		
I create an online student's account before I can pay my fees.	300	276	92.0%	24	8.0%	3.08	.796
The online account creation process is easy/simple.	300	246	82.0%	54	18.0%	3.29	.789
All my academic records are managed online by the school/faculty authority.	300	254	84.7%	46	15.3%	3.58	.610
I am able to access my form B, fees receipts, and exams results.	300	285	95.0%	15	5.0%	3.06	.911
Hard copies of my admission files are handed to the admission/academic record office.	300	232	77.3%	67	22.3%	2.20	1.007
Correction of online biodata information is done on time.	300	117	39.0%	183	61.0%	1.87	.996
Complaints on academic record are treated rapidly by the record office.	300	75	25.0%	225	75.0%	3.46	.710
Multiple Response Set	300	212	70%	88	30%	2.93	0.831

The findings in table 3 stated that 276(92.0%) of the students agreed that they created an online student's account before they could pay their fees. Similarly, 246 (82.0%) and 254 (84.7%) of students agreed that the online account creation process is easy/simple and that all their academic records are managed online by the school/faculty authority. Furthermore, majority 285 (95.0%) and 232 (77.3%) of the students agreed that they are able to access their form B, fees receipts, and exams results and that hard copies of their admission files are handed to the admission and academic record office. Unfortunately, 183 (61.0%) of the students disagreed that correction of online biodata information is done on time. Interestingly, 225 (75.0%) of students disagreed that their complaints on academic record are treated rapidly by the record office.

Table 4: Staff responses on online students' academic record management and students' academic achievement

	N	Positive Response		Negative Response		Mean Std.	
		Agree	%	Disagree	%		
All students' academic records are managed online in my service.	100	68	68.0%	32	32.0%	2.98	.974
Fees payment is an important aspect of student account creation.	100	88	88.0%	12	12.0%	3.42	.806
Inconsistency on student's biodata delays the creation of student's accounts.	100	79	79.0%	21	21.0%	3.13	.837
I have the functionality to solve all students' complaints that are linked to my service.	100	28	28.0%	72	72.0%	1.94	1.090

My service accepts hard copies of files generated from students' accounts.	100	84	84.0%	16	16.0%	3.04	.665
Students' complaints on academic record are resolved immediately.	100	32	32.0%	68	68.0%	2.33	.779
The student online account creation process is easy/simple.	100	83	83.0%	17	17.0%	3.20	.841
Multiple Response Set (MRS)	100	66	66%	34	34%	2.86	.856

The findings in table 4 depicted that 88.0%, 84.0% and 83.0% of the staff respectively agreed that fees payment is an important aspect of student account creation, their service accepts hard copies of files generated from students' accounts and that the student online account creation process is easy/simple. Furthermore, 79.0% and 68.0% of staff agreed that inconsistency on student's biodata delays the creation of student's accounts and that all students' academic records are managed online in their service. However, 72.0 % of staff disagreed that they have the functionality to solve all students' complaints that are linked to their service. Similarly, 68.0% of them disagreed that students' complaints on academic record are resolved immediately.

## Research Hypothesis 1

H0<sub>1</sub>: There are no significant effects of personal information management on students' academic achievement in The University of Bamenda.

Table 5: Regression Model Summary of personal information management and students' academic achievement

Model Summary				
Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.371 <sup>a</sup>	.137	.134	3.626
a. Predictors: (Constant), Online Registration and Student Profile Management				

The model summary in table 5 indicated that there exists a positive relationship ( $R = 0.371^a$ ) between personal information management and students' academic achievement. Additionally, R-Square for the whole model is 0.137, with an adjusted R-Square of 0.134. The results show that 13.7% of the variations in students' academic achievement in The University of Bamenda are explained by the way their online personal information is being managed.

Table 6: Regression Coefficients for personal information management and students' academic achievement

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	
(Constant)	10.056	1.498		6.713	.000

Online Registration and Student Profile Management	.528	.077	.371	6.888	.000
Dependent Variable: Academic Achievement					

Table 6 showing results for regression coefficients stated the regression equation as (Academic achievement = 10.056 + 0.528 x Online Registration/Student Profile Management). This is an indication that, when students' online personal information is well managed, their academic achievement is at 10.1603. When the management of their personal information improves, their academic achievement increases by 0.528. This increase is significant at the 0.001 level of significance as shown by a p-value of 0.000.

Table 7: ANOVA table on personal information management and students' academic achievement

ANOVA <sup>a</sup>					
Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	623.780	1	623.780	47.447	.000 <sup>b</sup>
Residual	3917.807	298	13.147		
Total	4541.587	299			

a. Dependent Variable: Academic Achievement

b. Predictors: (Constant), Online Registration and Student Profile Management

The results in ANOVA table 7 revealed that the F-value at a degree of freedom 299 is 47.447 with  $p = 0.000$ ,  $p < 0.05$ . This indicates that the test is significant at 0.01 level of significance. Based on this, the null hypothesis 1 ( $H_{01}$ ) was rejected. Therefore, it can be concluded there are significant effects of personal information management on students' academic achievement in The University of Bamenda.

## Research Hypothesis 2

$H_{02}$ : There are no significant effects of the online students' academic record management on students' academic achievement in The University of Bamenda.

Table 8: Regression Model Summary of Online Students' Academic Record Management on Academic Achievement

Model Summary				
Model	R	R Square	Adjusted Square	R Std. Error of the Estimate
1	.252 <sup>a</sup>	.063	.060	3.778
a. Predictors: (Constant), Online Record Management				

The model summary in table 8 showed that there exists a positive relationship ( $R = 0.252^a$ ) between online academic record management and students' academic achievement. Moreover, R-Square for the overall model is 0.063, with an adjusted R-Square of 0.060. The findings reveal that 6.3% of the variations in students' academic achievement in The University of Bamenda can be accounted for by the way their online academic records are being managed.

Table 9: Regression Coefficients for Online Record Management and Academic Achievement

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std. Error	Beta	T	
(Constant)	12.720	1.696		7.499	.000
Online Record Management	.368	.082	.252	4.490	.000

Dependent Variable: Academic Achievement

Table 9 showing results for regression coefficients stated the regression equation as (Academic achievement =  $12.720 + 0.368 \times$  Online academic record management). Thus, when students' online records are well managed, academic achievement is at 10.1603. When the management of their online records increases by one unit, their academic achievement increases by 0.368. This increase is significant at the 0.001 level of significance as indicated by the p-value of 0.000.

Table 10: ANOVA Table of Online Record Management and Academic Achievement

ANOVA <sup>a</sup>					
Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	435.151	1	435.151	42.359	.000 <sup>b</sup>
Residual	2691.481	298	10.273		
1 Total	3126.633	299			

a. Dependent Variable: Academic Achievement

b. Predictors: (Constant), Online Record Management

The results in ANOVA table 10 indicated that the F-value at a degree of freedom 299 is 42.359 with  $p = 0.000$ ,  $p < 0.05$ . This indicates that the test is significant at 0.01 level of significance. Based on this, the null hypothesis 2 ( $H_{02}$ ) was rejected. Therefore, it can be concluded there are significant effects of student online academic record management on their academic achievement in The University of Bamenda.

## DISCUSSION OF FINDINGS

Holistically, the analysis of the data proved that online academic record management system has a significant effect on students' academic achievement in The University of Bamenda. This implies that the effective use of personal information management and academic record management enhances students' academic achievement. Also, the findings showed that over time, The University of Bamenda is digitally managing all information pertaining to a

student's academic activity ranging from bio-data, registration details, lecture details, continuous assessments and examination results; cumulative grade point average, transcripts, certificates, among, and so on. Rogers (2003) and Dearing and Cox (2018), endorsed these assertions contending that online academic record management system continue to have significant effect on students, lecturers, head of departments and admission record managers since it enables them to understand the processes involved in shifting from paper-based management of record to online academic record management.

The analysis of the data posited that personal information management has a positive and significant effect on students' academic achievement in The University of Bamenda. Specifically, the result indicated that when student own a private account where their courses have been uploaded by Head of Departments early enough and they are evaluated only on the courses they have registered; they tend to use the online academic record management system to monitor their academic progress and eventually, their academic achievement increases. These findings obtained from research question 1 were in congruence with those of Gary (2014) in which he explained that online academic record management system has the tendency of engaging students in activities which enabled them to manage their personal information as regards online registration and students' academic records. Moreover, results gotten from research question 1 emphasized that, students and staff tend to be less committed in using online academic record management system when students are not free to register their courses, they are unable to have end of semester exam marks processed without online continuous assessment marks or when they have encountered delays to resolve online course registration problems. This eventually causes a decrease in students' academic achievement. This implies that students and staff find it difficult to use ARMS although it provides opportunity for them to make choices about the management of records which tend to affect teaching learning process either positively or negatively. This finding is also in line with Kearns, et al. (2014) as well as, Siemens (2004) and Downes (2022), who explained that personal information management was a serious challenge for many computer users, even though technology has provided opportunity for them to make choices about teaching and learning.

The analysis of the data demonstrated that online academic record management has a significant effect on students' academic achievement in The University of Bamenda. This finding is in agreement with results of research question 2 and hypothesis 2, that students' online academic record management positively and significantly affect their academic achievement. This showed that when students and staff find it easy/simple to create or access an online account so that all academic records are managed online by the school/faculty authority and hard copies of admission files are handed to the admission and academic record office; they tend to use ARMS to access form B, fees receipts, and exams results and eventually, students' academic achievement increases. This implies that students and staff in particular and faculty as a whole are key participants in the process of online record management. These findings obtained from research question 2 were in conformity with those of Greeshma (2010). Furthermore, results gotten from research question 2 highlighted that, students and staff tend to be less committed in using online academic record

management when they are unable to do corrections with regard to online biodata information on time and to treat complaints on academic record immediately and rapidly. This eventually causes a decrease in students' academic achievement. This implies that students and staff to a greater extent find it difficult to manage students' registration and academic records. These findings concur with Falolo, et al. (2022) that student academic record (4.10) and external assistance (M=4.10) were not effectively managed. From the findings it is clear that the ineffective management of online academic record are caused by students and staff inability to adopt, adapt and manage students' academic records online. The findings of Okon, et al. (2023) support these findings.

## **Implications**

The introduction of an innovation in the curriculum of Higher Education has implications in all aspects of online management of records. This paper largely focuses on its effects on students' academic achievement. Interestingly, the results confirmed that the diffusion of innovations theory is highly applicable in The University of Bamenda. Consequently, students' academic achievement tends to increase since the use of ARMS by both students and lecturers encourages personalized learning. This is also because the use of personal information management and academic record management helps students to have access to their records at any time and from anywhere.

Moreover, the findings indicated that the theory of connectivism is vital in the teaching learning process. This is because the use of ARMS compels students and staff to use a higher level of thinking to make decision about teaching and learning. This improves students' academic achievement because it compels students to become more comfortable with online tools thereby helping them develop their personal information management skills and academic record management skills. In other word, using personal information management and academic record management tools help to reduce mismanaging of records and make learning flexible. When learning becomes flexible students, lecturers, head of departments and managers of students' admission records develop skills in record management and organization. Consequently, students' academic achievement increases.

## **CONCLUSION AND RECOMMENDATIONS**

Mismanagement of students' admission file, payment records, continuous assessment records, examination scripts, examination results, is an age-old tradition in higher education. This ugly scene which led to the wrecking of paper- based management practices which are among the core management practices that The University of Bamenda fosters, is unfortunately on the rise. Concomitantly, The University of Bamenda has the sole responsibility of coming up with stringent measures that can put this awkward practice on a permanent hold. In this regard, the ability to manage personal information and students' academic records online cannot be underestimated. Some of the students and staff are well versed with ARMS skills which they use to create an account, upload courses, register courses and monitor results. However, some of the students and staff are facing challenges in the management of online personal information and academic records which amounts to the

inability of students to have end of semester exam marks processed without online continuous assessment marks and to resolve online course registration problems without delay. Based on the aforementioned conclusions, this paper recommends the following:

1. Students and staff in The University of Bamenda mostly make use of ARMS. So, in order to meet their needs, management should ensure that the office of admission and records in every faculty/college has an expert on ground to always assist students, lecturers and head of departments (HODs) who do not know how to make use of the ARMS. Management should also carry on with proper training of staff to attain to students' need.
2. A user-friendly manual for specific tasks on the online academic record management system (or software) should be provided to all concerned stakeholders.
3. Students should make it a point of duty to attend all orientations, seminars and workshops organized by their Colleges/Faculties and the University for them especially when the orientations, seminars and workshops focus on issues related to innovations in curriculum such as the management of records online.
4. Deadlines are very important in the calendar of every institution. Students should make sure that they respect deadlines for all the activities of their establishment and the University's such as: fees payment, submission of files, course registration etc. This is because most errors on personal information management or data entry are always caused by last minute rush.
5. Management should always provide opportunities for students and staff to respond to an innovation communicated through certain channels. This will sensitize the students and staff to be aware of the relevance of this innovation to the institution.
6. Rules and regulations prohibiting the acts of late payment of fees, uploading of courses, registration of courses, mismanagement of students' admission file, continuous assessment records, examination scripts, examination results should be strictly implemented. Such policy statements should be written as notice and posted on faculties notice boards and other notice boards or forum on campus. Such rules and regulations should have accompanying penalties clearly spelt out to all defaulters.

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