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Constructs of E-Learning Towards Customer Satisfaction among Distance Learning Students in Ghana

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ABSTRACT

The purpose of the study was to find out the key constructs of e-learning towards customer satisfaction of distance learning students in Ghana. Four hypotheses were formulated for the study. A cross-sectional survey design that adopted the quantitative research approach was used. A sample size of 420 was selected using convenient sampling. Data was analysed with SPSS. Spearman's correlation and multiple regression analysis were used to analyze the hypotheses. The study revealed that course flexibility and learners' interaction with others were the major factors that positively impacted customer satisfaction. Therefore, the study recommended that time schedules for online courses should be "rigid free" and not subjected to strict times which are unpleasant for learning and discussions. The study concluded that to continue enabling marginalized and disadvantaged students to access distance-learning education, policymakers need to hear the voices of distance-learning students on course flexibility and learners' interactions.

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INTRODUCTION

Capper asks an important question, "Does e-learning generate satisfaction?"[1] Fulk et.al, draw on early evaluations of open educational resources, as compared to the empowerment of people who are not "associated with educational programs" which led to the initial inspiration for the development of "open learning".[2] However, the degree to which learning barriers have been adequately addressed, let alone "overcome," by a distant learning paradigm that allows people to study wherever and at any time that suits them is "enough" to solve learning inequities.[3] The UK government passed the Special Educational Needs and Disability Act in 2001, bringing previously exempt portions of the education

[1] Joanne Capper, "The Emerging Market for On-line Learning: Insights from the Corporate Sector," *European Journal of Education* 36, no. 2 (2001): 237–45.
[2] Janet Fulk, Joseph Schmitz, and Charles W Steinfield, "A Social Influence Model of Technology Use," *Organizations and Communication Technology* 117 (1990): 140.
[3] Elaine Allen and Jeff Seaman, "Digital Compass Learning: Distance Education Enrollment Report 2017.," *Babson Survey Research Group*, 2017.

industry into the purview of preexisting anti-discrimination laws.[4] The Joint Information Systems Committee created the TechDis service that same year, with a mandate for all facets of technology and disability in education. The service has been attempting to comprehend the implications of the legislation for, among other things, e-learning since 2001 in collaboration with other intermediaries.

Over the past few years, distance learning has grown significantly in the Ghanaian educational system. The mode of operation for learning in a tertiary environment up until recently was traditional "face-to-face" schooling. To reach students who are significantly out of reach physically in time and space (at a distance), distance learning is an educational system of teaching and learning (instructional methods) planned and delivered using a wide range of technologies. This structure is intended to promote learner interaction and learning certification.[5] Given the global expansion in enrolment and system structures, the value of classic or conventional means of teaching and learning cannot be undermined; nonetheless, it can be connected with many obstacles.[6] Challenges may include the environment, architecture, facilities, marketing campaigns, democratization, and the provision of universally cheap education.[7] In developing nations like Ghana, distance learning, also known as distance education, has been adopted as a solution to the difficulties and issues associated with the traditional system of education.[8] A few of the universities in Ghana producing distance learning in Ghana are the University of Education, Winneba (UEW), Kwame Nkrumah University of Science and Technology (KNUST), and the University of Cape Coast (UCC).[9] Distance learning provides an alternative for those unable to enroll in traditional institutions.[10] Due to the flexibility and simplicity of accessing their programs, distance learning schools are expanding rapidly.[11] The non-universal dimensions and approach to distant education have been illustrated by a number of authors.[12] Distance education (DE) is the practice of instructing and engaging students via technology while they are not physically present in the classroom.[13] It illustrates how adaptable the teacher and student are in their mobility in relation to the need to travel to a specific spot.[14] As a result of the paradigm shift that moved teaching and learning from face-to-face to a blended approach of instruction delivery employing electronic space, medium, and tools, distant education and e-learning—which are not synonymous—are used synonymously in Ghana.[15]

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[4] His Majesty's Stationery Office (HMSO), ""Special Educational Needs and Disability Act 2001," https://www.legislation.gov.uk/ukpga/2001/10/contents, 2001.

[5] John Edumadze et al., "E-Learning at the University of Cape Coast, Ghana-Are Our Distance Education Students Technologically Ready?," 2017.

[6] Allen and Seaman, "Digital Compass Learning: Distance Education Enrollment Report 2017."

[7] Winner Chawinga and Paxton Zozie,"Information Needs and Barriers to Information Sources by Open and Distance Learners: A Case of Mzuzu University, Malawi," *South African Journal of Information Management* 18, no.1(2016):1-12.

[8] Tony Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*, vol. 132 (Unesco Paris, 2001).

[9] Olivia A T Frimpong Kwapong, *Equitable Access: Information and Communication Technology for Open and Distance Learning* (iUniverse, 2010).

[10] Fulk, Schmitz, and Steinfield, "A Social Influence Model of Technology Use."

[11] Florian Fahrenbach, Kate Revoredo, and Flavia Maria Santoro, "Valuing Prior Learning: Designing an ICT Artifact to Assess Professional Competences through Text Mining," *European Journal of Training and Development* 44, no. 2/3 (2019): 209–35.

[12] Te-Lien Chou, Jia-Jia Wu, and Chin-Chung Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review," *Journal of Educational Computing Research* 57, no. 4 (July 17, 2019): 1038–77, https://doi.org/10.1177/0735633118774350.

[13] Jalal Sarabadani, Hamed Jafarzadeh, and Mahdi ShamiZanjani, "Towards Understanding the Determinants of Employees' E-Learning Adoption in Workplace: A Unified Theory of Acceptance and Use of Technology (UTAUT) View," *International Journal of Enterprise Information Systems (IJEIS)* 13, no. 1 (2017): 38–49.

[14] Edumadze et al., "E-Learning at the University of Cape Coast, Ghana-Are Our Distance Education Students Technologically Ready?"

[15] Maryam Alavi and R Brent Gallupe, "Using Information Technology in Learning: Case Studies in Business and Management Education Programs," *Academy of Management Learning & Education* 2, no. 2 (2003): 139–53.

In Ghana, tertiary institutions mostly practice distance education (DE) (private and public). It is primarily distinguished by the availability of several study centers with study materials (modules), where instructors conduct biweekly in-person lessons with motivated students on weekends.[16] Ghana's example is unique in that there is little virtual engagement related to distance education, in contrast to other educational jurisdictions where using virtual devices to engage and communicate with students is commonplace. Bangert- Drowns et. al., interprets e-learning as an instructional technique that fosters student-centeredness and self-learning through communication and interaction over the internet.[17] E-learning is currently thought to be a trend in distance learning.[18] According to Freeman et. al., e-learning occurs in a setting where instructors and students are geographically separate.[19] Modern technology and ICT tools are used in e-learning to create, develop, and provide instruction without regard to place or time constraints. In assessing teachers, course designs, and an educational program's overall quality, student satisfaction is important. Therefore, the management of educational institutions should be significantly impacted by an awareness of the aspects that affect e-learning. Numerous academics have long examined the primary variables (drivers) of e-learning and customer satisfaction in Ghana.[20]

Despite this, only a few people have looked into it from the viewpoint of idling e-learning users, or distance learners. This study aims to fill this knowledge gap by identifying the components of e-learning that contribute to customer satisfaction among Ghanaian distance learners. The study sought to find out if the various constructs of e-learning have a significant relationship with customer satisfaction among distance learning students in Ghana.

LITERATURE REVIEW

Theoretical Model

This study relies on the expectation and confirmation paradigm and the technology acceptance model by Fulk et. al., Bates and Chou et al.,[21] Several scholars with backgrounds in marketing, psychology, and information systems have used and accepted both confirmation and technology acceptance models with constructs that discuss e-learning systems. Moreover, Johnston et. al., indicated that the main e-learning constructs were examined from the perspective of the learners using the e-learning customer satisfaction model of Sun et.al.[22] This paradigm has made it easier to comprehend how e-learning increases consumer happiness. It has been used in a wide range of studies including "E-learning

[16] Edumadze et al., "E-Learning at the University of Cape Coast, Ghana-Are Our Distance Education Students Technologically Ready?"

[17] Robert L Bangert-Drowns et al., "The Instructional Effect of Feedback in Test-like Events," *Review of Educational Research* 61, no. 2 (1991): 213–38.

[18] Robert T Raab, W Wyn Ellis, and Buenafe R Abdon, "Multisectoral Partnerships in E-Learning: A Potential Force for Improved Human Capital Development in the Asia Pacific," *The Internet and Higher Education* 4, no. 3–4 (2001): 217–29.

[19] Emmanuel Freeman, Ahmed Antwi-Boampong, and O B Agyemang, "Students' Learning Experience within a Blended Learning Environment in a Higher Education Institution in Ghana," in *Proceedings of the European Conference on E-Learning, ECEL*, 2019, 160–68.

[20] Edumadze et al., "E-Learning at the University of Cape Coast, Ghana-Are Our Distance Education Students Technologically Ready?"; Kwapong, *Equitable Access: Information and Communication Technology for Open and Distance Learning*; Raab, Ellis, and Abdon, "Multisectoral Partnerships in E-Learning: A Potential Force for Improved Human Capital Development in the Asia Pacific"; Allen and Seaman, "Digital Compass Learning: Distance Education Enrollment Report 2017."

[21] Fulk, Schmitz, and Steinfield, "A Social Influence Model of Technology Use"; Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*; Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."

[22] James Johnston, Jeff Killion, and Jody Oomen, "Student Satisfaction in the Virtual Classroom," *Internet Journal of Allied Health Sciences and Practice* 3, no. 2 (2005): 6; Pei-Chen Sun et al., "What Drives a Successful E-Learning? An Empirical Investigation of the Critical Factors Influencing Learner Satisfaction," *Computers & Education* 50, no. 4 (2008): 1183–1202.

success determinants; An empirical study in Brazilian"[23] and the "level of satisfaction of using e-learning systems."[24] The model proposes four dimensions of assessing the drivers of e-learning satisfaction from the students' dimension, instructors, course dimension, and environmental dimension. For this study, four dimensions are used to assess the effectiveness of e-learning among distance students. The four dimensions are the Student dimension: learners' attitude toward computers (LAC) and learners' internet self-efficacy (LISF). Course dimension: e-learning course flexibility (ECF). Environment dimension: perceived interaction with others (LPI).

Hypotheses development

Learners' attitude towards computer and e-learning

This clarifies how students view their participation in computer-based e-learning activities. Numerous studies have revealed that views toward computers among students, whether positive or negative, affect interest and, eventually, customer satisfaction.[25] Therefore, the initial hypothesis is to confirm this claim. The relationship between learners' views regarding computers and e-learning has been extensively researched in the conventional learning environment, where interactions between students and instructors occur directly in physical classrooms on campus.[26] Information and communication technology (ICT) breakthroughs are altering many industries, including higher education.[27] E-learning is becoming more and more popular in higher education as a result of the availability of a variety of teaching and learning options for instructors and students due to computer-based learning apps. Raab et. al, also indicate that e-learning is a cutting-edge approach to delivering educational services that makes use of computers to improve students' knowledge, skills, and other outcomes.[28] Based on the above literature review, the following hypothesis is made:

H_1: *Learners' attitudes towards computers will positively influence e-learning.*

Learners' internet self-efficacy and e-learning customers satisfaction

Learners' internal perceptions of the internet and its features are reflected in their level of internet self-efficacy. When students consider their chances of succeeding when using the internet.[29] The learner's degree of internet self-efficacy will have a significant impact on their ability to complete any e-learning-related assignment. Internet self-efficacy has been linked to increased student happiness, according to many academics.[30]

H_2: *Learners' Internet self-efficacy will positively influence perceived e-Learner customer satisfaction.*

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[23] Wilmar Audye Cidral et al., "E-Learning Success Determinants: Brazilian Empirical Study," *Computers & Education* 122 (2018): 273–90.

[24] Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."

[25] J Ben Arbaugh and Rebecca Duray, "Technological and Structural Characteristics, Student Learning and Satisfaction with Web-Based Courses: An Exploratory Study of Two on-Line MBA Programs," *Management Learning* 33, no. 3 (2002): 331–47; Raab, Ellis, and Abdon, "Multisectoral Partnerships in E-Learning: A Potential Force for Improved Human Capital Development in the Asia Pacific"; Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.

[26] Fulk, Schmitz, and Steinfield, "A Social Influence Model of Technology Use."

[27] Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*; Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."

[28] Raab, Ellis, and Abdon, "Multisectoral Partnerships in E-Learning: A Potential Force for Improved Human Capital Development in the Asia Pacific."

[29] Johnston, Killion, and Oomen, "Student Satisfaction in the Virtual Classroom."

[30] Hossein Mohammadi, "Investigating Users' Perspectives on e-Learning: An Integration of TAM and IS Success Model," *Computers in Human Behavior* 45 (2015): 359–74; Shu-Sheng Liaw, "Investigating Students' Perceived Satisfaction, Behavioral Intention, and Effectiveness of e-Learning: A Case Study of the Blackboard System," *Computers & Education* 51, no. 2 (2008): 864–73.

Course flexibility and e-learning customer satisfaction

This clarifies how students view the flexibility of the course in terms of timing, location, techniques, participation, and satisfaction with e-learning activities. It has been suggested by a number of authors, that course flexibility will favorably impact e-learning performance and pleasure.[31] The fact that part-time distant learning is still seen as a necessary and inevitable more flexible study option than full-time in-person high education is a tiny irony. Of course, to some extent, it is because students can study whenever they choose (within the constraints of assessment deadlines) and do not have to 'attend' in person. Whatever, it is also clear that more and more "full-time" offerings (however that term is construed) are embracing a mixed approach in order to provide pedagogical flexibility. Whether the values of these institutions are driven by the market or by their mission, flexibility proponents call for institutional transformation in order to implement more adaptable systems and pedagogies. [32] Following the gaps and claims raised from the literature review, this is the hypothesis to be tested:

H_3: *Course flexibility will positively influence e-learning customer satisfaction.*

Learners' perceived interaction and e-learning customer satisfaction

On online learning platforms, e-learners connect, converse, and ask questions more frequently, which increases their pleasure.[33] The extent to which students connect with other people or learning resources in a virtual environment or arena enhances learning methods.[34] Numerous researchers contend that these results are accurate.[35] The following hypothesis is to be tested in response to the gaps and assertions made by the literature review:

H_4: *Learners' interaction with others will positively influence perceived e-learner customer satisfaction.*

Customer satisfaction

When a customer uses a particular kind of good or service, they have a specific objective in mind. He/she anticipates a particular level of performance from the chosen good or service. when the client reaches the desired outcome (customer satisfaction). Customers will lose interest in a product if none of its performances meet their specific needs (customer dissatisfaction). Once they focus on unexpected values, motivational traits will result.[36] Customers follow specific expectations during service, as was previously said. In actuality, each product consists of a set of values that the client contrasts with the expectations he or she has for the product. They will be satisfied if the values meet their expectations. The process of a customer's knowledge and evaluation of their experience using a product or other service is known as customer satisfaction, according to the definition given above.[37]

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[31] Sarah Guri-Rosenblit, "'Distance Education'and'e-Learning': Not the Same Thing," *Higher Education*, 2005, 467–93; Raab, Ellis, and Abdon, "Multisectoral Partnerships in E-Learning: A Potential Force for Improved Human Capital Development in the Asia Pacific"; Allen and Seaman, "Digital Compass Learning: Distance Education Enrollment Report 2017."; Fulk, Schmitz, and Steinfield, "A Social Influence Model of Technology Use"; Patrícia Silva, "Davis' Technology Acceptance Model (TAM)(1989)," *Information Seeking Behavior and Technology Adoption: Theories and Trends*, 2015, 205–19.

[32] Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."

[33] Arbaugh and Duray, "Technological and Structural Characteristics, Student Learning and Satisfaction with Web-Based Courses: An Exploratory Study of Two on-Line MBA Programs."

[34] Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.

[35] Young-Ju Joo, Mimi Bong, and Ha-Jeen Choi, "Self-Efficacy for Self-Regulated Learning, Academic Self-Efficacy, and Internet Self-Efficacy in Web-Based Instruction," *Educational Technology Research and Development* 48 (2000): 5–17; Mingming Jiang and Evelyn Ting, "Course Design, Instruction, and Students' Online Behaviors: A Study of Instructional Variables and Students' Perceptions of Online Learning," in *American Educational Research Association Annual Meeting*, 1998.

[36] Gary Greenberg, "Distance Education Technologies: Best Practices for K-12 Settings," *IEEE Technology and Society Magazine* 17, no. 4 (1998): 36–40.

[37] Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.

Customers are satisfied in a variety of ways, including with a product's fundamental qualities, its outstanding performance qualities, and how they engage with it when they are in need of it.

Customer satisfaction has been explored in a variety of ways, but the idea that it is an evaluation of a particular transaction made after the customer has made their choice seems to have gained the most traction.[38] According to Mohammadi, contentment is the consumer's response to fulfillment; it is an appraisal of a product or service that is being delivered and a way to determine if the amount of fulfillment is satisfactory or not.[39] Bates defined customer satisfaction as the degree to which customers feel that a product or service met their needs and expectations.[40] Customer satisfaction is defined as the difference between expectations and actual views of service performance level as expressed by the consumers themselves.

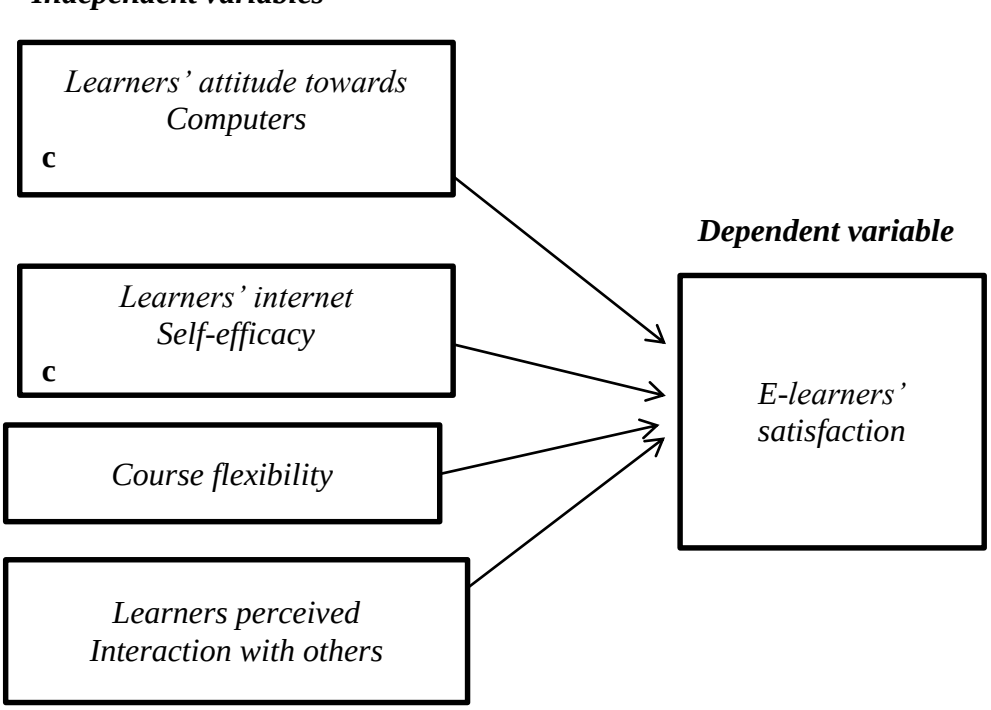

Figure 1: **Conceptual Framework on e-Learning towards Satisfaction**
Source: Author's construct, 2022

Reviewing relevant literature related to the construct of e-learning towards customer satisfaction among distance learning students in Ghana helps to explicitly explain the relevant terms associated with the theme. Key concepts and empirical evidence that best explain e-learning satisfaction and performance were thoroughly discussed.

METHODOLOGY

A cross-sectional survey design was used for the study. Primary data was obtained with the aid of standardized instruments [questionnaires] while secondary data was obtained from the extant literature. The study's objectives precipitated a post-positivism philosophical worldview which was adopted. Post-positivism holds the view that even though human beings cannot perfectly understand a phenomenon, researchers can approach this by subjecting it to hypothesis testing, collection of data,

[38] Jabiri Kuwe Bakari et al., "State of ICT Security Management in the Institutions of Higher Learning in Developing Countries: Tanzania Case Study," in *Fifth IEEE International Conference on Advanced Learning Technologies (ICALT'05)* (IEEE, 2005), 1007–11.
[39] Mohammadi, "Investigating Users' Perspectives on e-Learning: An Integration of TAM and IS Success Model."
[40] Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.

and analysis. Considering the research objectives which are aimed at identifying key constructs that influence results (action or behavior), the choice of this philosophical paradigm is justified with the adoption of a quantitative method approach. The population target was all distance learning students in the Central region of Ghana, specifically; at the University of Education, Winneba (UEW) and University of Cape Coast (UCC). These two universities were chosen because of their outstanding ratings in terms of structures, policies, and frameworks that govern distance learning in Ghana.[41] The estimated number of students enrolled in distance education for the various tertiary institutions is shown in the table below.

Table 1. Target population

Name of Tertiary Institution	**Number**
University of Cape Coast	16, 885
University of Education, Winneba	22, 286
Total	**39,171**

Field survey, 2022

The convenient sampling technique was used to select 420 students from the two universities. The study first contacted the two universities through their director of distance learning, who granted approval for the commencement of the data collection. Furthermore, the authors also sought the consent of the students before allowing them to voluntarily join the study. They first assured participants of confidentiality and anonymity of responses before administering the questionnaires and allowing them to voluntarily join the study. Overall, 420 questionnaires were distributed to participants from the two universities, and 396 responses were retrieved (approximately 94% response rate). The IBMS SPSS statistics 25 was used for the statistical analysis. Spearman's correlation and multiple regression analysis were used for data analysis. The data set was extracted in Microsoft excel format and entered into SPSS software for editing and coding.

Analyses and Results

Correlation Analysis

Correlation relates to examining the relationship strength between the independent variables (Learner attitude towards computers, Learner internet efficacy, Course flexibility, and Learner perceived interaction with others) and the dependent variable (Satisfaction and performance). Spearman's correlation matrix was used to determine the correlation between variables. The strength or weakness of the relationship is normally determined by the R-value. According to Creswell, the correlation is normally considered weak when the r value is less than 3, moderate when is between 3 and 6, and strong when it's above 6.[42]

Table 2. Spearman's correlation matrix

		LA	LI	CF	LP	ESP
Learner attitude toward computers	Correlation Coefficient	1.000	-.043	.438**	.392**	.383**
	Sig. (2-tailed)		.391	.000	.000	.000
	N	.395	395	395	395	395

[41] Edumadze et al., "E-Learning at the University of Cape Coast, Ghana-Are Our Distance Education Students Technologically Ready?"

[42] John W Creswell, *A Concise Introduction to Mixed Methods Research* (SAGE publications, 2014).

Learner internet self-efficacy	Correlation Coefficient	-.043	1.000	.296**	.155**	.248**
	Sig. (2-tailed)	.391	.	.000	.002	.000
	N	395	395	395	395	395
Course flexibility	Correlation Coefficient	.438**	.296**	1.000	.570**	.660**
	Sig. (2-tailed)	.000	.000	.	.000	.000
	N	395	395	395	395	395
Learner perceived interaction with others	Correlation Coefficient	.392**	.155**	.570**	1.000	.618**
	Sig. (2-tailed)	.000	.002	.000	.	.000
	N	395	395	395	395	395
E-learning satisfaction and performance	Correlation Coefficient	.383**	.248**	.660**	.618**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.
	N	395	395	395	395	395

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

Table 2 revealed that there is a significant positive relationship between all four independent variables and the dependent variable ranging from an r value of .248 to .660. Course flexibility recorded the highest correlation ($r = .660$, $p < .001$). Learner perceived interaction with others ($r = .618$, $p < .001$). Learner attitude towards computer ($r = .383$, $p < .001$). Learner internet self-efficacy ($r = .248$, $p < .001$). There was a positive relationship between learner attitude towards computers and e-learning customer satisfaction. Thus, educational institutions can offer relevant computer training for all of their e-learners in order to educate them on the need to have a positive attitude towards computers. Again, there was a positive relationship between learner internet self-efficacy and e-learning customer satisfaction, thus when students use e-learning they become satisfied and perform well when they are abreast with the internet and its features. Management and stakeholders of distance education should adopt a system where e-learners could be trained on the use of the internet without complication and recommendations could be made to them on the browser and website that is student-friendly.

The study revealed that there was a positive relationship between course flexibility and e-learning customer satisfaction. Thus, customer satisfaction and effective performance of the e-learner are derived from how flexible he or she can access the course with or without combining it with other learning activities. Again, educational institutions should enable that course design is relatively flexible for the e-learner to participate. Then, there was a positive relationship between learners' interaction with others through e-learning leading to customer satisfaction. This means that e-learners will be satisfied and perform very well if they can easily interact, discuss and get feedback on their questions. Student to student, student to tutors/instructors should be constructively effective.

Hypothesis testing

Regression analysis was used to measure the degree of relationship between independent variables and dependent variables.

Table 3. Regression model

Model			
Model	R	R Square	Adjusted R Square
1	.760	.578	.574

Source; Field data, 2022

Table 4. ANOVA

ANOVA					
	Sum of Squares	Df	Mean Square	F	Sig.
Regression	92.775	4	23.194	133.731	.000
Residual	67.640	390	.173		
Total	160.415	394			
a. Dependent Variable: ESP					
b. Predictors: (Constant), LP, LI, LA, CF					

Table 5. Coefficients

Coefficients						
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	.023	.110		.210	.834
	LA	.041	.026	.059	1.602	.110
	LI	.049	.050	.034	.980	.328
	CF	.516	.048	.467	10.825	.000
	LP	.356	.044	.342	8.032	.000
a. Dependent Variable: ESP						

DISCUSSION OF FINDINGS

Results from the regression analysis indicated that two (Course flexibility and learner-perceived interaction with others) variables are statistically significant and also have a positive relationship with e-learning customer satisfaction. The results also evidenced that 57.4% (Adjusted R^2=.157, F-value = .760, P < .001) of e-learning satisfaction and performance can be explained by those two variables. The predicted formulation that emerged from this output is as follows;

$Y = 0.23+0.516_{x1}+0.356_{x2}$

Y = E-learning leading to customer satisfaction

X1 = Course flexibility

X2 = Learner perceived interaction with others.

Again**,** course flexibility positively influences e-learning leading to customer satisfaction (with an unstandardized coefficient of 0.516 and being significant at a 5% level). The positive relationship means if course flexibility increases by 1, e-learning increases leading to customer satisfaction by 0.516). Moreover, Learner perceived interaction with others positively influences e-learning customer satisfaction of e-learners (with an unstandardized coefficient of 0.356 and is significant at a 5% level). The positive relationship means if leaner perceived interaction with others increases by 1, e-learning customer satisfaction increases by 0.356).

The first hypothesis addresses a statistical relationship between learners' attitudes toward computers and e-learning satisfaction and performance. The above analysis shows that learner attitude towards computers has a positive significant influence on e-learning customer satisfaction (β=.338, p=.000). This means that if e-learners develop a likable attitude towards computers and learn the features on their computers, then e-learning satisfaction will increase. This is in line with previous studies by Fulk et.al, and Bates) that computers among students, whether positive or negative, affect interest and, eventually, customer satisfaction.[43] Moreover, this is consistent with that of Bates and Chou et.al., studies that revealed that information and communication technology (ICT) breakthroughs are altering many industries, including higher education and E-learning is becoming more and more popular in higher education as a result of the availability of a variety of teaching and learning options for instructors and students due to computer-based learning apps.[44]

The second hypothesis also predicted a relationship between learners' internet efficacy and e-learning customer satisfaction. As per the discussion of findings from the study learners' internet efficacy has a significant influence on e-learning customer satisfaction (β=.248, p=.000). This means that if e-learners will appropriate time and learn to become effective in the use of the internet and its features, their e-learning customer satisfaction will significantly increase. From this angle, the findings of this study are also similar to those of earlier studies by Raab et.al, and Chou et.al. which focused on internet efficacy in general and placed an emphasis on the relationship between an online system and service quality and consumer happiness.[45] The key e-learning service quality features, specifically, are system quality, information quality, and service quality, additionally, this supports research that despite the fact that they concentrated on the effectiveness of e-learning systems and the caliber of e-learning services.[46]

The third hypothesis of the current study predicted a positive relationship between course flexibility and e-learning customer satisfaction**.** The findings revealed that course flexibility has a strong positive significant impact on e-learning customer satisfaction (β=.660, p=.000). This means that if courses are structured with flexibility, thus e-learners can easily engage with the course and other activities, and then e-learning customer satisfaction will increase. The present study is also in confirmation with the findings that the quality of e-learning services is linked to the flexibility of the course structure leading to service quality attributes.[47] Bates discovered that student feedback regarding the quality of their e-learning experience revealed that the course's flexibility with regard to the course material was the most crucial factor.[48] As a result, Allen and Seaman created a five-factor scale to evaluate the quality of the content provided to distance learners using web portals. Usability, content flexibility, information sufficiency, accessibility, and engagement were the five criteria. Of these five elements, content flexibility had the greatest impact on the development of the second-order factor (overall service quality).[49]

The fourth hypothesis of the study focused on the relationship between learners' interaction with others and e-learning customer satisfaction. The findings indicated that learner's interaction with others also has a strong positive significant influence on e-learning customer satisfaction (β=.618,

[43] Fulk, Schmitz, and Steinfield, "A Social Influence Model of Technology Use"; Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.
[44] Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*; Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."
[45] Raab, Ellis, and Abdon, "Multisectoral Partnerships in E-Learning: A Potential Force for Improved Human Capital Development in the Asia Pacific"; Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."
[46] Liaw, "Investigating Students' Perceived Satisfaction, Behavioral Intention, and Effectiveness of e-Learning: A Case Study of the Blackboard System"; Silva, "Davis' Technology Acceptance Model (TAM)(1989)."
[47] Liaw, "Investigating Students' Perceived Satisfaction, Behavioral Intention, and Effectiveness of e-Learning: A Case Study of the Blackboard System"; Chou, Wu, and Tsai, "Research Trends and Features of Critical Thinking Studies in E-Learning Environments: A Review."
[48] Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.
[49] Allen and Seaman, "Digital Compass Learning: Distance Education Enrollment Report 2017."

p=.000). What this means is that if e-learners can easily discuss, interact and communicate with colleagues and tutors effectively, then e-learning customer satisfaction will increase. These results support the claim made by Allen and Seaman that, when compared to other factors like technology control, teaching style, student computer proficiency, interactive collaboration, course content, design, access, infrastructure, and support, instructors' attitudes toward interactive learning were the most crucial success factors.[50] This supports the claims made by Fulk et.al. and Bates that, when students take online classes and do not have direct contact with faculty members (tutors) then teaching is distorted and feedback plays the most significant role in interaction breakdown.[51] Additionally, this supports studies by Allen and Seaman and Bates that found that the volume of interactions between instructors and students had a substantial impact on students' evaluations of the timeliness and quality of instructor comments.[52]

Practical Implication

The study has brought to light the essence and value of learners' attitudes towards computers, learners' internet self-efficacy, course flexibility, and learners' perceived interaction with others towards e-learning satisfaction. It is expected that educational institutions must adapt and expand distance learning by focusing on these areas as indicated in the study. Also, the introduction of distance learning must be centered on course flexibility and learner's interaction with others which are the key drives to e-learning customer satisfaction. Then, educational directors, management of educational institutions and other stakeholders engaged in e-learning activities must ensure that course flexibility is the major drive to e-learning leading to customer satisfaction, students who enroll in e-learning programs should be allowed to select from myriad time schedules that will best suit his or her engagements. The course arrangement should not be extremely rigid where there is a fixed limited time to start and time to finish an online course. This exercise may be revised at times goes on depending on the administration and educational setting.

Furthermore, consistent usage on the e-learning platform should be designed for active interaction with other users on the platform. Implementers of e-learning policies should include time schedules solely attributed to discussions, questions, and answers. Students should at least once a while have a time period with their instructor where they only come and ask questions and discuss their pleas on the platform.

Limitations and Future Research

However, this study also has some limitations. Firstly, data were collected from only two universities in Ghana. Although these two universities have experienced over 10 years of distance learning and are two prestigious universities in Ghana, the generalization of this study's findings to other universities in Ghana or universities in an emerging country should be made with caution. This study focuses only on factors that constitute overall e-learning and customer satisfaction, which focused on the Student dimension: learners' attitude toward computers (LAC) and learners' internet self-efficacy (LISF). Course dimension: e-learning course flexibility (ECF). Environment dimension: perceived interaction with others (LPI). E-learning may be influenced by additional elements, which need to be considered. Future research, for instance, could look at how these characteristics moderate the relationship between student satisfaction and loyalty, and the quality of the e-learning service.

[50] Allen and Seaman. "Digital Compass Learning: Distance Education Enrollment Report 2017."
[51] Fulk, Schmitz, and Steinfield, "A Social Influence Model of Technology Use"; Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.
[52] Allen and Seaman, "Digital Compass Learning: Distance Education Enrollment Report 2017."; Bates, *National Strategies for E-Learning in Post-Secondary Education and Training*.

CONCLUSION AND POLICY IMPLICATIONS

To improve e-learning activities, there must be policy implications by the Ministry of Education, and universities offering distance learning such as the University of Cape Coast, and the University of Education, Winneba to design policies that focus more on course flexibility and learner-perceived interaction with others (students and course instructors). It is imperative that Universities offering distance learning introduce various methods and forms for students to learn through distance learning. This study pioneers the contributions to the research literature on e-learning with an emphasis on course flexibility and learner-perceived interaction with others (students and course instructors) for an accurate and efficient evaluation of learning progress.

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