

# Factors defining continuance intention to use MOOCs in a student population: the case of Cameroon's universities

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**Abstract.** The massive open online courses (MOOCs) can be considered as one of the most recent training paradigms in distance education. As for other technologies the success of MOOCs depends on its adoption and learners' continuance usage. Drawing upon the information system continuance model (IS continuance model), the information system success model (IS success model), and the perceived reputation factor, a theoretical model was developed for examining learners' continuance intention to use MOOCs. Based on survey data from 143 university students in Cameroon, the usage of the partial least square (PLS) through a structural equation modeling (SEM) was used for data analysis, and the results of this study indicate that perceived usefulness, service quality, and satisfaction were significant determinants of the continuance intention of learners. These results also show an unexpected discovery, as the relationship between perceived usefulness and satisfaction have not been shown as significant according to the context of the study.

**Keywords:** MOOCs, IS continuance intention, IS success model, Quality factors, Developing world.

## 1 Introduction

“Nothing has more potential to lift more people out of poverty...Nothing has more potential to unlock a billion more brains to solve the world's biggest problems...than the massive open online course” [1]. This introducing quote figured out the expectation of individuals for MOOCs since its revolution in 2012 [2]. Expectations like solving the world's biggest problems, and lifting people out of poverty have more echo from the developing world side, particularly in Sub-Saharan Africa where the access to tertiary education is really low, the lowest in the world, about 9.39% in 2018 [3] a statistic which is very low compared to the world's tertiary education rate in the world, about 38.042% in 2018 [4].

MOOCs could be defined as “online courses designed for large numbers of participants, that can be accessed by anyone anywhere as long as they have an internet connection, are open to everyone without entry qualifications, and offer a full/complete

course experience online for free”. In a developing country like Cameroon, where higher education is not accessible to all because of its financial cost, options such as MOOCs can be an excellent alternative to manage the huge flow of students who demand access to higher education every year and reducing its cost in order to solve the labor shortage in the different fields [5]. Nevertheless, although MOOCs can facilitate access to higher education, there are still structural issues to be solved for the successful implementation of this technology. Regarding MOOCs, some of the biggest challenges are access to reliable electricity, access to Internet bandwidth in rural and urban areas, access to digital technologies, and ICT literacy [6].

MOOCs are generally classified into two main categories: xMOOCs and cMOOCs. In general, some skeptics have questioned the worth of MOOCs, especially citing low completion and retention rates as one of the key reasons. Undeniably, several studies have constantly pointed out low course completion and retention rates as one of the crucial concerns in MOOCs [7]. However, the efficiency of MOOCs cannot be solely examined by drop-out rates [8]. So, recent researches have been attempted to build a deeper understanding of diverse goals and motivation underpinning MOOCs learners' involvement [9]. Continuance intention is one of such indicators that, recently, academics have explored concerning learners' motivation and attitudes toward MOOCs [10].

Therefore, due to the importance to understand the users' willingness to continue to use MOOCs, the main purpose of this research is to develop and test a theoretical model that identifies the determinants predicting the learners' intention to continue to use MOOCs, highlighting and leveraging them, to allow a better adoption of MOOCs by students in Cameroon. Consequently, this research will gather the information systems continuance model with the Delone and McLean's information systems success model and the perceived reputation factor to achieve this goal.

The rest of the article is organized into 4 sections. Section 2 is dedicated to Theoretical background and hypotheses development, followed by Section 3 which is concerned with the research methodology and the results obtained. In Section 4, the results are discussed and implications are inferred. Finally, Section 5 deals with the conclusion, the limitations and the future research directions of this study.

## **2 Theoretical background and hypotheses**

Our theoretical background is composed of two major models, namely the information systems continuance model and the information systems success model. These two models are complemented by another factor recently introduced in the MOOCs literature, namely the perceived reputation. These elements are the subject of the following lines.

### **2.1 Information system continuance model (ISCM)**

Initially developed by Oliver (1980), the Expectation-Confirmation theory (ECT) has been widely adopted in marketing research to study consumer behavior to understand consumer satisfaction and explain repurchase intention [11]. This theory reveals two

specific cases of consumer post-purchase satisfaction with the acquired service or product, namely dissatisfaction due to the lack of response to consumer expectation levels, and satisfaction due to the confirmation of these expectations [12, 13].

In the information system (IS) field, the ECT was extended, and has led to resolve lack in former information technology adoption models like the Technology Acceptance Model (TAM) [14]. Since traditional models such as TAM only measure initial technology adoption, it was necessary to measure the sustainability of the technologies adopted. In other words, the success of technology should not be limited to its initial acceptance but should be supported by continuous use, particularly in a country where financial resources are insufficient, large-scale implementation of technology should only occur if there is satisfactory evidence of its adoption and use over the long term. In fact, the ISCM provides an excellent theoretical basis for research on the continuous use of ICTs and is the most frequently adopted model in studies on the intention to continue using information technology [15].

However, to study the intention to continue in new technological contexts like MOOCs, the ISCM should be expanded by adding new variables that take into account the unique attributes of the new technology in order to increase its robustness and predictive capacity [16].

In this study, we have used determinants such as satisfaction and confirmation and perceived usefulness from the ISCM as part of the whole theoretical research model with determinants from other theories. Based on various studies that have confirmed a significant and positive relationship between satisfaction and behavioral intention [17], we propose the following hypotheses:

H1: Satisfaction has a positive effect on continuance intention to use MOOCs.

Confirmation (disconfirmation) is understanding as the gap which might exist between individual' perception for product or service performance and expectations [18-20]. Performance and initial expectations lead to disconfirmation, which influences satisfaction. Continuance intention of IS depends on user' satisfaction, confirmation and the perceived usefulness [14]. Therefore, we propose the following hypotheses:

H11: Confirmation has a positive effect on satisfaction towards MOOCs;

H12: Confirmation has a positive effect on the perceived usefulness of MOOCs;

H13: Confirmation has a positive effect on the perceived reputation of MOOCs.

Davis [21], defines perceived usefulness as the extent to which an individual believes that using a particular system would improve work performance. As to Bhattacharjee [14], he lets understand that perceived usefulness is an important determinant of the users' satisfaction. Thereby, according to Hayashi, Chen [22] perceived usefulness is positively correlated to satisfaction. Therefore, we propose the following hypotheses:

H2: Perceived usefulness has a positive effect on continuance intention to use MOOCs;

H10: Perceived usefulness has a positive effect on MOOCs users' satisfaction.

## 2.2 Information systems success model (ISSM)

Examination of previous researches on information systems success model has been used to establish a theoretical basis and means to design the success of the MOOCs-

based learning system. It has been shown that Delone & McLean's IS success model is one of the most and widely cited in the literature [23]. This model was launched in 1992 by Delone & McLean and was improved in 2003. The model has 06 dimensions: (1) system quality, (2) information quality, (3) service quality, (4) use/intention to use, (5) user satisfaction, and (6) net benefits. It suggests that individual measures and systematic combinations of the information systems success category create a comprehensive measurement tool [24]. With respect to online education, lot of researches has explored the determinants of users' continuance in online learning environments, and these studies have shown that perceived quality is an important factor in the intention to use e-learning systems [13, 25]. Thus, in this study, we will use system quality, information quality (course quality), and service quality to compose our theoretical model.

Recently, the influence of system quality on the continuous intention to use MOOCs has been examined and validated, and this study concludes that a slight friction effect during the use of the MOOC platform can discourage the learner's intention to use it [24], thus better system quality leads to greater satisfaction [26]. Therefore, we propose the following hypotheses:

- H3: System quality has a positive effect on the continuance intention to use MOOCs;
- H7: System quality has a positive effect on MOOCs users' satisfaction.

In fact, users' perception of the course quality can be influenced by the teacher's knowledge of the subject. Course quality will, therefore, be defined as knowledgeability, relevance, the authority of content, and lecturers' teaching attitudes [24]. The more prepared the course is, the more serious and credible the teacher appears to the MOOC learner, and the more the learner's interest in continuing to take the course will increase. Therefore, we propose the following hypotheses:

- H4: Course quality has a positive effect on the continuance intention to use MOOCs;
- H8: Course quality has a positive effect on MOOCs users' satisfaction;
- H15: Course quality has a positive effect on perceived usefulness of MOOCs.

According to Yang, Shao [24] about the significant effect of service quality on continuance intention, the more refined the learner's perception of service quality is, the more likely the learner will continue to use the information system in the future. When users perceive that an information system provides service that meets expectations, they will feel a strong sense of satisfaction with the information system and intend to reuse it [27]. Therefore, we propose the following hypotheses:

- H5: Service quality has a positive effect on the continuance intention to use MOOCs;
- H9: Course quality has a positive effect on MOOCs users' satisfaction;
- H16: Course quality has a positive effect on perceived usefulness of MOOCs.

### 2.3 Perceived reputation

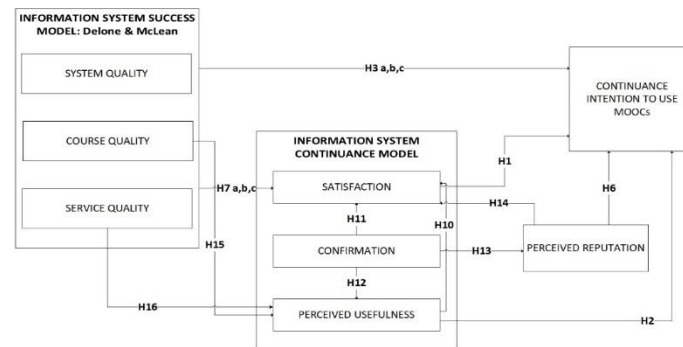
Reputation is a concept examined in multiple disciplines such as strategy, marketing, sociology, and accounting. Thereby one of definitions attributed to reputation is the one of Fombrun and van Riel [28] who define it as a collective representation of former actions and results of a company, that describes the company's capacity to provide val-

uable results to various stakeholders. Alraimi, Zo [11] confirmed the influence of perceived reputation on continuance intention to use MOOCs. Therefore, we propose the following hypotheses:

H6: Perceived reputation has a positive effect on continuance intention to use MOOCs;

H14: Perceived reputation has a positive effect on MOOCs users' satisfaction.

Following all these theories, model and hypotheses we can illustrate the theoretical research model as in **Fig. 1**.



**Fig. 1.** Theoretical research model

### 3 Research Method and results

This section deals with the research context, the study participants, the data collection method, the instruments used, and then the subsection on data analysis.

#### 3.1 Research context and participants

This research has been carried out based on a convenience sampling method. The target respondent for this study were students who have already attended one MOOC at least. Respondents include 143 university students mainly from 03 major IT training schools and faculty in the city of Yaoundé in Cameroon, namely National Advanced School of Engineering Yaoundé; the department of computer science of the University of Yaoundé 1; National Advanced School of Posts, Telecommunications and Information and Communication Technologies. We were focused on these 03 major IT schools because the use of E-learning technologies like MOOC is not widely spread in the country because of several barriers [29].

#### 3.2 Data collection and instruments

For data collection, two data collection paths were used: an online survey was developed using Google Forms configured to only accept the complete responses, and a field survey was conducted directly to university students from the schools evoked earlier.

This questionnaire presents the measurements of the 08 constructs with an overall of 32 items, each item of these constructs was measured with the seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

For the online survey, some Email invitations with the online survey link were sent to 13 members of our network participating in MOOCs with the recommendation to forward the survey link to their network to create a snowball effect. Besides, the link to the form was uploaded into several WhatsApp groups/forums. This first method helped to collect 15 responses to the survey. About the field survey, 254 questionnaires were distributed and 198 were returned. The returned questionnaires contained 70 unusable questionnaires, and 128 valid questionnaires equivalent to 53.16%. This process held from February 15th to April 12th, 2019. The demographic profile of the sample is shown in **Table 1**.

**Table 1.** Demographic characteristics of the respondents

Items	Type	Frequency (n = 143)	Percent
Gender	Female	32	22.38
	Male	111	77.62
Age	[15-20]	45	31.47
	[21-25]	77	53.85
	[26-30]	12	8.39
	[31-35]	7	4.90
	Over 35	2	1.40
Education	Under Graduate	80	55.94
	Graduate	61	42.66
	Post Graduate	2	1.40
Time to Participate in MOOCS per Week	Under 1h	26	18.18
	[1h-5h]	105	73.43
	Over 5h	12	8.39
Number of MOOCS Performed	Under 3	50	34.97
	[3-5]	44	30.77
	Over 5	49	34.27

### 3.3 Data analysis

For data analysis, we led a structural equation modeling (SEM) to examine the relationships among the latent variables using the proposed research model (**Fig. 1**). We have followed a two-step procedure to analyze the collected data [30], First of all, we examined the construct validity of the measurement model by assessing the reliability, convergent validity, and discriminant validity. Then, to investigate the robustness of relationships (hypotheses) among the theoretical constructs, we examined the structural model. Partial Least Square (PLS) was used to analyze the collected data as well as compute the reliability and validity of the research model constructs. All these analysis steps were made using SmartPLS 3.2.8 because it is suitable for the sample size and so, over the required one evaluated to 40 observations [31], for the use of the PLS-SEM analysis [32]. To analyze the significance of the parameter estimates, the bootstrapping

procedure with the re-sampling method was used to derive valid standard errors or t-values [33].

### Evaluation of reliability and convergent validity.

The reliability of the construct was assessed using a Cronbach's alpha which provides a measure of the internal consistency, it should be greater than 0.70 [34]. The measurement scales have been evaluated using three criteria: items factor loading ( $\lambda$ ) should be significant and above 0.7 [35, 36]; composite reliability [34] for each construct should exceed 0.7 [37]; and average variance extracted (AVE) for each construct should be greater than 0.50 [38]. **Table 2** summarizes the assessment of the construct reliability and the convergent validity of each construct.

**Table 2.** Construct reliability and convergent validity

Constructs	Items	Factors loading	AVE	CR	Cronbach's alpha	VIF
Confirmation (CNF)	CNF1	0.813	0.659	0.852	0.739	1.532
	CNF2	0.871				1.895
	CNF3	0.746				1.396
Course Quality (CQ)	CQ1	0.716	0.647	0.879	0.818	1.455
	CQ2	0.795				1.801
	CQ3	0.829				1.854
	CQ4	0.868				2.051
Continuance intention to use MOOCs (CI)	CI1	0.903	0.826	0.959	0.947	4.921
	CI2	0.941				6.887
	CI3	0.897				3.468
	CI4	0.920				4.617
	CI5	0.880				3.447
Perceived Reputation (PRT)	PRT1	0.833	0.757	0.903	0.844	2.123
	PRT2	0.892				2.350
	PRT3	0.885				1.799
Perceived Usefulness (PU1)	PU1	0.722	0.622	0.908	0.879	1.916
	PU2	0.823				2.901
	PU3	0.831				3.031
	PU4	0.733				2.174
	PU5	0.841				2.624
	PU6	0.772				2.091
Satisfaction (SAT)	SAT1	0.906	0.825	0.904	0.788	1.734
	SAT2	0.911				1.734
Service Quality (SeQ)	SeQ1	0.780	0.692	0.870	0.778	1.568
	SeQ2	0.897				1.899
	SeQ3	0.814				1.553
System Quality (SQ)	SQ1	0.761	0.619	0.827	0.720	1.426
	SQ2	0.677				1.407
	SQ3	0.904				1.404

**Table 2** clearly demonstrates that the AVE, CR and Cronbach's alpha values for all constructs in the measurement model exceed the recommended thresholds value. For this reason, we have kept items with a factor loading less than 0.7 (i.e. SQ2,  $\lambda = 0.677$ ), because factors loading must be significant and must be greater than 0.4 [36]. In this context, this factor contributes significantly to the validity of the System Quality construct. On the other hand, variance inflation factors (VIF) have been measured to ensure that there is no redundancy among measurement items of each construct. Effectively, there is no redundancy in our model because all the VIF scores are less than 5 [39], except CI2. Though CI2 has a VIF value of 6.887 is not of great concern because it is still within the acceptable threshold [40]. To sum up the suitability of the measurement model showed that all items were reliable indicators of the hypothesized constructs.

#### **Model fit and multicollinearity test.**

Regarding our theoretical model, we will use the Standardized Root Mean Square Residual (SRMR) to examine the model fit. We define the SRMR as the square-root of the difference between the residuals of the sample covariance matrix and the hypothesized model. Therefore, it allows assessing the average magnitude of disparities between observed and expected correlations as an absolute measure of model fit criterion. Considering our model and using SmartPLS 3.2.8, the SRMR value is 0.070, we can then testify the good fit of our model [41].

On the other side, it is important to check the multicollinearity in the model to ensure the quality of the measurement scale, and avoid inflation of the effect sizes, which could be caused by the independent variables [42]. Using SmartPls 3.2.8, we can reach this goal by analyzing the VIF scores of our exogenous constructs (independent variables). Thus, these values should be less than 5 and more conservatively less than 3.3 [39].

**Table 3.** Multicollinearity among the Predictors of Endogenous Constructs

		Predictors (VIF)						
		CNF	CQ	PRT	PU	SAT	SeQ	SQ
Endogenous Variables	CI		1.674	1.113	1.374	1.448	1.775	1.191
	PRT	1.000						
	PU	1.266	1.579				1.667	
	SAT	1.533	1.671	1.081	1.512		1.756	1.182

As illustrated by the VIF scores results of the multicollinearity analysis in **Table 3** above, there is no redundancy among the measurement of our endogenous variables. We can therefore continue with the discriminant validity analysis.

#### **Discriminant validity.**

**Table 4** presents the correlation analysis of constructs, we observe that the AVE square root value for the reflective variables is consistently greater than the off-diagonal squared correlations that suggest satisfactory discriminant validity among variables.



**Table 4.** Inter-construct correlations and discriminant validity (i.e., bold numbers)

Constructs	CNF	CQ	CI	PRT	PU	SAT	SeQ	SQ
CNF	<b>0.812</b>							
CQ	0.373	<b>0.804</b>						
CI	0.527	0.398	<b>0.909</b>					
PRT	0.143	0.248	0.275	<b>0.870</b>				
PU	0.527	0.354	0.546	0.157	<b>0.789</b>			
SAT	0.562	0.386	0.488	0.275	0.43	<b>0.908</b>		
SeQ	0.435	0.592	0.508	0.227	0.431	0.429	<b>0.832</b>	
SQ	0.284	0.336	0.236	0.136	0.269	0.304	0.287	<b>0.787</b>

**Hypotheses testing.**

As illustrated in the **Table 5**, the factors influencing continuance intention to use MOOCs are: (1) satisfaction ( $\beta = 0.205$ ,  $p < 0.05$ ); (2) Perceived usefulness ( $\beta = 0.329$ ,  $p < 0.001$ ); and (3) service quality ( $\beta = 0.233$ ,  $p < 0.05$ ), these results support the H1, H2 and H5 hypotheses. Other latent hypotheses not related to the continuance intention to use MOOCs have been supported, that the case of the H11 ( $\beta = 0.383$ ,  $p < 0.001$ ), the H12 ( $\beta = 0.408$ ,  $p < 0.001$ ), the H14 ( $\beta = 0.148$ ,  $p < 0.05$ ), and the H16 ( $\beta = 0.206$ ,  $p < 0.05$ ).

**Fig. 2** illustrates the  $R^2$  and the resulting path coefficients of the analysis of the structural equation model. These results have shown that the variance in the perceived usefulness is significantly explained by confirmation and service quality, resulting in an  $R^2$  of 0.332 (33.2%). Likewise, the variance in the satisfaction is found to be significantly explained by confirmation, and perceived reputation, resulting in an  $R^2$  of 0.405 (40.5%). Unfortunately, perceived reputation is not significantly determined by confirmation as an exogenous variable. The dependent variable, continuance intention to use MOOCs is significantly determined by perceived usefulness as the main factor ( $\beta = 0.329$ ,  $p < 0.001$ ), followed by service quality ( $\beta = 0.233$ ,  $p < 0.05$ ), and satisfaction ( $\beta = 0.205$ ,  $p < 0.05$ ). The combined effect of these three independent variables explains 44.1% of the variance in continuance intention to use MOOCs.

A summary of the hypotheses testing results of the standardized path coefficients and path significances is provided in **Table 5**. Overall, 7 out of 16 hypotheses are supported by the data.

## 4 Discussion and Implications

The following development will be divided into two parts, first the discussion part and then the implications part. In order to achieve this goal, we will first present the results of our hypotheses testing, then discuss the results of the ISCM and MOOCs continuance, and finally the ISSM quality's factors and the ISCM results. In the implications' subsection, we will cover the theoretical implications of our research and then its practical implications.

#### 4.1 Discussion

In terms of theory building, this study attempts to extend the ISCM, integrating quality features from the Delone and McLean's ISSM and perceived reputation factor to investigate the determinants of students' continuance intention in using MOOCs in Cameroon. Also, this research is focused on the practical side of MOOCs while other studies focus on the users' motivations side [9]. The results of the empirical analysis provide strong support for 7 out of 16 hypotheses. According to the hypotheses, we offer the following insights.

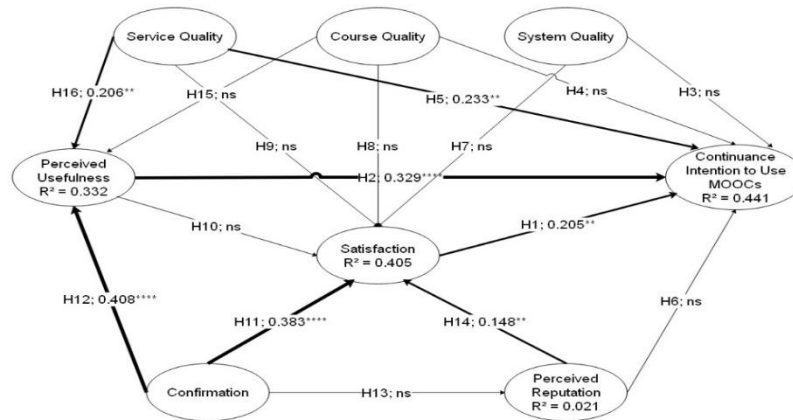
**Table 5.** Hypotheses testing results

Hypotheses	Results
H1: Satisfaction → Continuance intention to use MOOCs	Supported
H2: Perceived Usefulness → Continuance intention to use MOOCs	Supported
H3: System Quality → Continuance intention to use MOOCs	Not Supported
H4: Course Quality → Continuance intention to use MOOCs	Not Supported
H5: Service Quality → Continuance intention to use MOOCs	Supported
H6: Perceived Reputation → Continuance intention to use MOOCs	Not Supported
H7: System Quality → Satisfaction	Not Supported
H8: Course Quality → Satisfaction	Not Supported
H9: Service Quality → Satisfaction	Not Supported
H10: Perceived Usefulness → Satisfaction	Not Supported
H11: Confirmation → Satisfaction	Supported
H12: Confirmation → Perceived Usefulness	Supported
H13: Confirmation → Perceived Reputation	Not Supported
H14: Perceived Reputation → Satisfaction	Supported
H15: Course Quality → Perceived Usefulness	Not Supported
H16: Service Quality → Perceived Usefulness	Supported

#### ISCM and MOOCs continuance.

The findings indicate that confirmation is a significant predictor of perceived usefulness, and satisfaction in that the more initial expectations from learners are filled, the more likely learners will be satisfied with their MOOCs experience, and the more likely they will be to perceive MOOCs as useful for their needs [11].

The relation between perceived usefulness and satisfaction (H10) was not found in this research context, which is an unexpected finding. Although this is one of the main relationships on the ISCM [14], the significance of this relationship was not advocated by the data set, even in other research [11]. However, an explanation of this unexpected finding can find out. The respondents of this study were mainly from IT education (computer science), and participation in MOOCs are for some of them included on their educational program and become an educational obligation, others are proficient on MOOCs and aware on the perspective its offer to keep their knowledge up to date. So, for these kinds of learners, it seems that usefulness is an intrinsic property of MOOCs and then it became difficult to feel directly the effect of this factor, their satisfaction relies on other factors.



Path significances: \*\*\*\*p < 0.001; \*\*\*p < 0.01; \*\*p < 0.05; \*p < 0.1; ns non-significant.

Fig. 2. Structural model analysis results (significant path in bold)

Furthermore, the significance of two key relationships between perceived usefulness, satisfaction, and continuance intention to use MOOCs has been verified as advocated by Bhattacharjee [14] and other study [11].

As a factor contributing to the satisfaction of learners, this research highlights the significant effect of perceived reputation on satisfaction (H14), this result is consistent with previous research [11]. This study also found that confirmation has not a significant effect on perceived reputation, while another study has shown the opposite [11]. This result can be easily understood, because when attending to a MOOC, learners are more focusing on fill their expectation, the reputation of a MOOC provider, instructor likely relies on external factors, not students' expectations.

#### ISSM Quality's factors and ISCM.

The findings show that system quality and course quality don't have a significant effect on learners' continuance intention to use MOOCs. While different from the findings of prior research [24], this result can be explained. Firstly, system quality more rely on system performance, and major MOOCs providers are very close about this aspect of the system which become inhibited. Also, the effect of course quality has not been shown as significant. The fact that the course quality can be considered as the most important and sensitive legacy in education, it would seem that learners estimated that they have not sufficient proficiency to analyze in a critical way the quality of the course, they rely more on course providers' reputation.

Otherwise, the significant effect of service quality on the continuance intention to use MOOCs have been demonstrated, this result is confirmed by former studies [24], this significance of service quality can take it source on Q&A forums, which is very helpful when attending a MOOC class, because of TA (Teacher assistant), or classmates

which can help attendant when getting stuck on a material. That is why even the effect of service quality on perceived usefulness has been shown as significant (H16).

## 4.2 Implications

### **Theoretical Implications.**

In the literature, prior researches have examined the factors that influence the continuance intention to use MOOC. However, this research has a particular value because it reveals multiple statistically significant relationships that explain why individuals continue using MOOCs in the developing world, particularly in Cameroon. Moreover, to explore this phenomenon and pursued this empirical study, we used the ISCM, extended with the ISSM quality factors such as system quality, course quality, and service quality, we have also joined the perceived reputation to form the research model. At least three insights can be retrieved according to the results of the study: (1) the service quality from Delone and McLean's ISSM has been shown as a strong factor to determine a continuance of MOOCs (H5); (2) the predicting power of perceived reputation on satisfaction has been supported by the results; and (3) the relationship between perceived usefulness and satisfaction have not been validated by the dataset in this study.

### **Practical Implications.**

Service quality has been shown in this study as a solid and important determinant for continuance intention to use MOOCs, hence MOOCs providers should give a particular attention to all features which contribute to the enhancement of the MOOC service quality, this may include Q&A module, forums where learners can obtain a quick and helpful assistance from fellow "MOOCmate". MOOC practitioners can improve the service quality impact through materials translation, this could involve users from other languages, and cultures. Visual content like presentation (slide) for a course can be very engaging and could participate to enhance the impact of service quality.

The fact that the perceived reputation as been found as an important determinant of users' satisfaction which affects the continuance intention of MOOCs is a pretty good finding for MOOCs practitioners and providers. This can be used as a differentiation factor regarding other MOOCs providers. So, launch a course given by a renowned expert or specialist in a particular field could really improve the users' attendance, engagement, and satisfaction and subsequently affect their continuance intention.

In light of the foregoing, our research might have certain limitations due to our context and environment, which should be highlighted and serve as future research perspectives. In the following lines, we will try to shed light on those.

## 5 Limitations, future research and conclusion

The objective of this study was to identify factors influencing learners' continuance intention to use MOOCs. We extended the ISCM by integrating three ISSM quality factors namely: system quality, course quality and service quality; we have also integrated perceived reputation to form the research model of this study. This empirical

study was made on university students, and results have shown that perceived usefulness is the main factor influencing the continuance intention to use MOOCs, followed respectively by service quality, and satisfaction. The results of this study provide empirical evidence which would be helpful for MOOCs practitioners and platform developers, so they can leverage to build MOOCs that are in adequacy with learners' expectations. On the other hand, though MOOCs could help to democratized tertiary education by leveraging technologies, there are still structural problems, which should be addressed for better results. Even though a rigorous and comprehensive study was conducted, some limitations related to this research do exist: (1) we conducted the study exclusively in Cameroon, (2) only 44.1% of the variance in the continuance intention to use MOOCs is explained, the major part of this variance remains unexplained, probably due to excluded factors from the research model ,and (3) certain observable mediations between constructs were not examined within the scope of this study. It might be wise to face these limitations in future research on this topic.

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