

**DISTANCE EDUCATION TUTORS'
ACCEPTANCE OF LEARNING MANAGEMENT
SYSTEM FOR BLENDED LEARNING IN GHANA**

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ACCEPTANCE OF LEARNING MANAGEMENT
SYSTEM FOR BLENDED LEARNING IN GHANA**

by

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**PENERIMAAN SISTEM PENGURUSAN PEMBELAJARAN BAGI
PEMBELAJARAN TERADUN DALAM KALANGAN TUTOR PENDIDIKAN
JARAK JAUH DI GHANA**

ABSTRAK

Kajian ini mencadangkan satu kerangka konsep berdasarkan *Unified Theory of Acceptance and Use of Technology* (UTAUT) dan Teori Kognitif Sosial Sistem Maklumat (SCT-IS) bagi menilai penerimaan tutor terhadap Sistem Pengurusan Pembelajaran (LMS) dalam pembelajaran teradun dalam pendidikan jarak jauh (PJJ). Kajian ini menggunakan reka bentuk kajian gabungan kuantitatif dan kualitatif melibatkan soal selidik dan temubual bagi tujuan pengutipan data. Bagi komponen kuantitatif, seramai 267 orang tutor dari pusat-pusat PJJ seluruh Ghana telah memberi maklum balas terhadap soal selidik tersebut manakala 15 daripada mereka telah ditemubual bagi komponen kualitatif. Teknik *Partial Least Square Structural Equation Modeling* (PLS-SEM) digunakan bagi menganalisis data kuantitatif, manakala analisis tematik digunakan bagi analisis data kualitatif. Dapatan kajian ini menunjukkan sikap, efikasi sendiri, pengalaman teknologi serta jangkaan usaha sebagai faktor-faktor utama penerimaan para tutor. Dapatan *Importance Performance Map Analysis* (IPMA) pula menunjukkan sikap terhadap mod pembelajaran teradun dalam LMS merupakan faktor paling penting yang membentuk hasrat para tutor dalam menerima persekitaran ini. Seterusnya, kajian ini mengesan hubungan-hubungan tidak linear antara faktor-faktor personaliti (sikap, efikasi sendiri, pengalaman teknologi serta kebimbangan) dengan faktor-faktor eksogenus UTAUT (jangkaan prestasi, jangkaan usaha, pengaruh sosial dan kondisi memudahkan) terhadap hasrat perlakuan para tutor. Ia juga membuktikan kewujudan hubungan

sesama dan antara faktor-faktor personaliti dan faktor-faktor eksogenus UTAUT secara bebas. Dapatan analisis tidak linear ini menghasilkan hubungan baru antara kondisi memudahkan dan pengaruh sosial, pengalaman teknologi dan jangkaan usaha, serta hubungan antara kesukarelawan dan perlakuan tutor. Analisis perantara pula mengesahkan bahawa sikap terhadap pembelajaran teradun dalam persekitaran PJJ merupakan perantara penuh antara jangkaan prestasi dan hasrat perlakuan, manakala pengalaman teknologi dan efikasi sendiri merupakan perantara penuh antara kondisi memudahkan dan hasrat perlakuan, di mana ia merupakan dapatan-dapatan unik model yang terbina dari kajian ini. Bagi kesan moderator, pengalaman bersemuka sebagai satu atribut utama PJJ dikesan sebagai faktor moderator kesan-kesan sikap, efikasi sendiri serta jangkaan usaha. Kesan moderator ini juga dikenal pasti sebagai dapatan baru bagi kajian-kajian LMS dalam PJJ. Namun begitu, beberapa kekangan utama bagi pembelajaran PJJ menggunakan LMS ini adalah kurangnya latihan, gajet teknologi (tablet/laptop, *powerbank*, modem), sumber internet serta sokongan teknikal. Kajian ini mencadangkan bahawa dalam teori, hubungan-hubungan sesama jangkaan usaha, jangkaan prestasi, pengaruh sosial dan kondisi memudahkan perlu dimasukkan dalam model UTAUT bagi memberikan huraian dan kefahaman yang lebih baik terhadap pembolehubah-pembolehubah tersebut, manakala dengan memasukkan hasrat perlakuan dalam model SCT-IS akan menjadikannya lebih konstruktif memandangkan faktor-faktor personaliti (sikap, efikasi sendiri serta pengalaman teknologi) telah meramalkan hasrat perlakuan sebagai pembolehubah endogenus. Penglibatan hubungan-hubungan lain antara faktor-faktor personaliti ini dalam model SCT-IS juga perlu dipertimbangkan. Akhirnya, kajian ini mencadangkan bahawa bagi penawaran serta latihan yang berterusan, peralatan seperti tablet, laptop, modem, akses internet serta sokongan

teknikal adalah penting bagi membolehkan para tutor PJJ menerima pembelajaran teradun dalam persekitaran LMS.

DISTANCE EDUCATION TUTORS' ACCEPTANCE OF LEARNING MANAGEMENT SYSTEM FOR BLENDED LEARNING IN GHANA

ABSTRACT

This study proposed a conceptual framework based on the Unified Theory of Acceptance and Use of Technology (UTAUT) and Social Cognitive Theory of Information System (SCT-IS) to investigate tutors' acceptance of Learning Management System (LMS)-enabled blended learning in distance education (DE). Anchored on embedded mixed method (Quantitative + qualitative) design, the questionnaire and interview guide were utilized for data collection. Consequently, quantitative data was drawn from a sample of 267 tutors from DE study centres across Ghana who responded to the questionnaire, while 15 of them were interviewed for the qualitative component. Analysis of the quantitative data utilized the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique while thematic analysis was used for the qualitative data. Findings from the research revealed key factors of tutors' LMS-enabled blended learning uptake intention as attitude, self-efficacy, previous technology experience and effort expectancy. However, the Importance Performance Map Analysis (IPMA) results proved that attitude towards LMS-enabled blended learning was the most important and performing factor shaping the intentions of tutors towards blended learning acceptance in DE. Furthermore, the study established non-linear relationships among both personality factors (attitude, self-efficacy, previous technology experience and anxiety) and UTAUT exogeneous factors (performance expectancy, effort expectancy, social influence and facilitating conditions) towards behavioural intention. It also proved the existence of relationships between and among

personality factors and UTAUT exogeneous factors independently. The outcome of these analyses of non-linear relationships produced new relationships such as between facilitating conditions and social influence; facilitating conditions and previous technology experience; facilitating conditions and effort expectancy as well as voluntariness of use and use behaviour. Mediation analysis confirmed that attitude towards LMS-enabled blended learning in distance education fully mediated the effects of performance expectancy on behavioural intention while previous technology experience and self-efficacy fully mediated the effect of facilitating conditions on behavioural intention, which were unique within the models derived for the study. On moderators, face to face experience which constituted a key attribute of DE in the context of this study moderated the effects of attitude, self-efficacy and effort expectancy. This moderating effect was also novel to LMS-enabled blended learning research in DE. However, crucial barriers to LMS uptake for blended learning in DE were lack of training; technological gadgets (tablets/laptops, power banks, modem), internet provision and technical support. The study recommended that in theory, the relationships between performance expectancy, effort expectancy, social influence and facilitating conditions, should be included in the UTAUT model to foster better explanation and understanding of variable behaviour within the model while the inclusion of behavioural intention in the SCT-IS model will be constructive. The inclusion of other relationships between personality factors in the SCT-IS model could also be considered. Finally, the study recommended among others that provision of training in a continuum coupled with the supply of tablets or laptops; modem and internet; as well as technical support are essential to LMS-enabled blended learning acceptance in DE.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Spanning over three generations and more, the etymology of distance education from the originator, Caleb Phillips of Boston, in the United States in 1728 (Siemens, Gasévić & Dawson, 2015) and the accredited pioneer in Europe, Sir Isaac Pitman of Wiltshire in 1840 (Tracey & Richey, 2005), was predominantly characterized by print-based correspondence (Aoki, 2012). This initial print-based technology mode of distance education was beset with the absence of two-way communication or interaction, that is ‘instructor to student’ and ‘student to student’ which forms the hub of every effective instructional process, advocated by educational learning theories (Aoki, 2012). In view of this limitation, the concept ‘distance’ in the term ‘distance education’ as an eminent definition, was so evident. According to Siemens et al., (2015), this stage of distance education represented the ‘dark ages’.

However, a renaissance began emerging with the inventions in information technology to improve education delivery and distance education in particular (Anderson, Dron & Siemens, 2011). Based on historical ‘presentism’, it can conveniently be declared that the 21st century and recent times in particular, have been inundated with technologies that have barely made the term ‘distance’ a metaphor rather than literary. Alluded to this feat, are the technologies that have bridged the chasm between the ‘distance instructor’ and the ‘distance student’. Chien (1999) places the contributions of modern technologies in the right context by stating that they have dramatically advanced the means to collect, store, and organize

information in digital forms of all kinds - data, text, images, motion video, sound, and integrated media - and made it available and sharable for searching, retrieval, and processing via high-performance communication networks in ways that transcend distance and time (William, 2009). The extensive usage of smart devices, internet, and the continuing technology cost reduction (Rainie, 2010), personal computers, smart phones, iPads, global positioning systems (GPS), online group workspaces, simulations, etc., have all contributed in redefining the scope of distance education teaching and learning experience in contemporary times, the 21st century for that matter. Quoting Moller, Robinson and Huett (2012),

“the distance learning process, often constrained to modest point-to-point connections between learner and instruction, is beginning to be replaced by a growing realization that, distance education is a learning experience that takes place in a technology-enabled learning environment, and that has dimensions: volume, depth and breadth...

(p.3).

Moller et al., (2012) explained volume as the availability of increased communication, connections and options opened up to the learner, whereas depth means an enhanced space for transmitting sizeable data which is reliable for the novel communications, connections or options. Space on the other hand describes the extent of unlimited potential practical experiences.

Accordingly, modern distance education thrives on modern technologies and no distance learning program seems to be feasible without the interactivity provided by the internet to both teacher and learner (Ntumy-Coleman, 2011). Notable among these technologies has been the Learning Management System, acronym ‘LMS’ in the technological circles. The introduction of this technology has evolved in its trail

terms such as e-learning, with components; online learning and blended learning. It is no means an exaggeration to state that over thousands of institutions worldwide (Naveh, Tubin, & Pliskin, 2010) are using this LMS technology to deliver instructions to students either 'in situ' or sparsely distributed in varied locations of interest outside the institutional environment. Notwithstanding, the ingenuity of the instructor is at the 'pith and core' of the usage and success of an LMS technology. As major stakeholders in every education and particularly in the distance education milieu, the introduction of any technology and LMS for that matter, to assist the teaching and learning process, demands to a greater extent, the acceptance of instructors. This is because, technology, no matter how effective it is deemed or intended to be, cannot be totally imposed on potential users, especially if it is to be integrated in a work process that is pro traditional. Not even in a mandatory environment can this be risked, chiefly because of the failure factor that persistently thrives with new technology integration.

Even though LMS is widely used by institutions to assist distance learning or for blended learning (Cigdem & Topcu, 2013), correct use of these tools and information sharing through LMSs are essential for the effectiveness and sustainability of the course and knowledge management (Zhang, de Pablos & Xu, 2014). It has become evident that, while providing online learning programs, many universities are experiencing great difficulties in delivering courses (Park, 2009) and despite the rising trend of using LMS to facilitate educational activities, the number of teaching staff who use LMS, does not rise as fast as it was thought (Wang & Wang, 2009). LMS technology seems to fail to achieve the intended purpose underscored mostly by the reason that, instructors as the direct 'utilizers' and 'promoters' hesitate to accept and use them effectively to support the aims of the

institutions that implemented them. This is underpinned by the principle of sheer implementation without recourse to the key agents (instructors) who will use this technology to facilitate instruction.

Most institutions fully implement LMS technology prior to elucidating the issues of acceptance on the part of instructors who represent the backbone behind LMS success in pedagogical or andragogical processes. A reversal of this anomaly requires that full LMS implementation be preceded by instructors' acceptance investigations. To wit, the baseline of the accomplishments in LMS implementation is instructors' acceptance; hence studies in technology acceptance have dominated the central stage of prior technology usage intentions. Ascertaining the acceptance behaviour of potential users (instructors) especially relative to technological factors as well as personality factors, and the influence of key characteristics of the technology uptake context is tantamount to safeguarding the success of LMS integration.

1.2 Background

LMS aids activities connected to e-learning such as information presentation, course material management, assignment collection and student evaluation (Yueh & Hsu, 2008). The system provides essential advantages to any educational institution in general and instructors in specific. According to Mahdizadeh, Biemans, and Mulder (2008), LMS applications enable organizations to manage users, courses and instructors with testing capabilities and ability to generate reports, transcripts and notifications to students. In addition, LMS could accelerate the learning processes, and improve the effectiveness of communication between users; educators, staff, and students (Cavus & Momani, 2009). However, the most cited benefits of LMS within

the literature are enhanced efficiency and cost-saving (Aczel, Peake, & Hardy, 2008). According to Anderson and Grönlund (2009), these LMS solutions are believed to have the potential to widen access, reduce costs, and to improve the quality of education in Africa while also helping institutions meet the demands of a growing student population through technology-enhanced distance learning and complementing existing traditional face-to-face delivery (Unwin, Kleessen, Hollow, Williams, Oloo, Alwala, & Muianga, 2010). This is particularly evident with governments making efforts to train more human resources to provide a knowledge based economy (UNESCO, 2014) while maintaining the quality of education (Adentwi, 2002). For instance, Koomson (2009) indicated that in Ghana, many qualified applicants are denied access to mainstream tertiary education due to limited physical infrastructure (lecture halls, hostels etc.) and other logistics existing at the universities. A solution to this problem would be to allow people to learn through distance education since this mode of education is especially significant, as accessibility, flexibility and affordability are at the heart of various distance education systems across the world (Moore & Kearsley, 2008).

Moore and Kearsley (2004) defined the distance education concept as “teaching and planned learning in which teaching normally occurs in a different place from learning, requiring communication through technologies as well as special institutional organization” (p. 2). Accordingly, Williams and Lindsay (2003) showed the growing importance of distance education programs as centres for the development of knowledge in most developed countries as an alternative to conventional institutions of higher learning (Ifinedo & Ololube, 2007). This undoubtedly was the main reason why many universities in Sub-Saharan Africa and for that matter University of Cape Coast (UCC) introduced its distance education

programme to an unlimited scope of people in the societies of Ghana, offering education, business, mathematics and science based education programmes. Over the years, tutors have been recruited all over to teach distance education students at centres across the entire country. What seems alarming now is that, the increasing number of students has made it extremely difficult for tutors as well as administrators in managing the distance education programme in a traditionally 'manual' way. Currently, information flow from administrators to tutors and students and activities such as registration, instruction, result checking, fee payment etc., are purely paper based, a situation which seems inconsistent and incongruous with the current society in which we live. Most importantly, complaints from students, bothering on limited interaction period allotted to face-to-face on the time table is on the ascendancy.

Conversely, according to Anderson and Dron (2010), considering the necessity to extend beyond physical distance between students and instructors, the delivery of distance education has constantly depended on technological advancements that are modern. In view of this, the significance of e-learning and Learning Management System solutions to the enhancement of distance based higher education cannot be overemphasized. For instance, institutions elsewhere have been using the LMS to supplement traditional face-to-face delivery where faculty members develop and share digital learning materials via the Internet (Busaidi, 2012; Cigdem & Topcu, 2013; Dutta, Roy, & Seetharaman, 2013). In this case, LMS is used as electronic repositories of learning materials (Vovides, Sanchez-alonso, Mitropoulou & Nickmans, 2007) and instructors are able to reach more learners across various geographical boundaries (Andersson & Grönlund, 2009). Additionally, they have managed to improve students' learning performance, reduce

students' dropout rates, and increase students' satisfaction with offered courses (Naveh, Tubin, & Pliskin, 2012).

In light of these benefits, the adoption of LMS by higher education institutions in Sub-Saharan Africa has continued to increase in recent years, spending many thousands of dollars to pilot and implement various e-learning solutions in the sub region (Sarfo & Yidana, 2016). Owing to this dimension of innovation, Adkins (2013) predicted LMS adoption growth rate of 15% per annum between 2011 and 2016 in Africa. Research conducted within the Sub-Saharan Africa region has documented these LMS adoption patterns from 2008 to 2014 indicating types of LMS such as Moodle and Sakai (Ssekakubo, Suleman & Marsden, 2011) installed in institutions in countries such as Tanzania, Kenya, Uganda (Lwoga, 2012; Mtebe & Raisamo, 2014; Munguatosha, Muyinda & Lubega, 2011) as well as Sudan, Zimbabwe and South Africa (Hoosen & Butcher, 2012; Mayoka & Kyeyune, 2012; Elmahadi & Osman, 2013; Chitanana, Makaza, & Madzima, 2008). In Ghana, there has been a trending situation of higher institutions beginning to acquire and utilize LMS (Asunka, 2008). Currently, the success rate of e-learning implementation is very low as adopting and adapting to e-learning systems is still a problem although evidence from these universities show that LMS has the potential to promote access to and improve teaching and learning in higher education. (Sarfo & Yidana, 2016, Awidi, 2013). However, this is even relatively campus-based for regular students on a smaller scale (Marfo & Okine, 2011; Awidi, 2013). Employment of LMS for large scale distance education programme is yet to be considered (Sarfo & Yidana, 2016, Awidi, 2013). Distance education is still being dispensed by print-based correspondence assisted with face-to-face fortnightly (Sarfo & Yidana, 2016). It is against this backdrop that the College of Distance Education, University of Cape

Coast, decided to implement the FRONTER e-learning platform (with the domain name vCoDE) as an important component of its distance education programme. This initiative is to mediate face-to-face interaction with technology and enhance the quality of the distance education programme, which is recognized by Burns (2011), as the blended or hybrid form of distance education. As online learning has increased in popularity, so has LMS-enabled blended learning especially in the arena of distance education; a direction which seems to be the norm of every distance education institution in the 21st century.

On the contrary, research findings depict that the overwhelming growth in the LMS market is beset with failures (Wu et al., 2006; Shoonenboom, 2014; Persico, Manca, & Pozzi, 2014). Several factors have accounted for satisfaction or acceptance in online environments with initial researchers (such as Arbaugh, 2002; Arbaugh & Duray, 2002; Chen & Bagakas, 2003) revealing factors such as student, teacher, course, technology, system design, and environmental dimensions. Other authors such as Sun, Tsai, Finger, Chen and Yeh (2008) pointed out that learners' computer anxiety, instructor attitude toward e-learning, e-learning course flexibility, e-learning course quality, perceived usefulness, perceived ease of use, and diversity in assessments are the critical factors affecting learners' perceived satisfaction.

Consequently, there should be a consideration of two basic roles pertaining to online learning in the discussion of avenues for successful implementation. These involve the role of the instructor as against that of the student. While both roles include a changeover from traditional teacher-student interactions, functions and tasks, to virtual space positions, it is the instructor's principal functions within the online pedagogical environment which will facilitate the prevalence over difficulties while providing assistance to maintain the success of students. Instructors provide

learners with the affordances towards collaboration, sharing and the knowledge creation among peers, which enhance their technology use variations, improve their experiences in learning online, and facilitate ongoing learning geared towards self-directedness (Clark & Mayer, 2011; Li & Irby, 2008). Additionally, the instructor considers the lack of competence with technology on the part of learners while accommodating their differing abilities coupled the willingness to provide them the choice based on required performance targets and associated appropriate learning outcomes (Bernard, 2011). Authors such as Terry and Leppa (2009); Hastie, Hung, Chen and Kinshuk (2010), opine that only instructors can reduce the anxieties of learners for them to have the feeling of connection, reassurance, and safety to participate meaningfully within their unfamiliar environments of instruction.

This means, despite the fact that students' intrinsic motivation is preferred and essential, the creation of a conducive online learning environment which fosters students' eagerness towards learning and success, is the instructor's principal task. To this end, the salient issue is whether the instructor is ready to accept this seemingly extra task for blended learning, especially with the use of LMS to successfully carry out instruction in distance education, since its success largely depends on them. This is underscored by the fact that Martin (2009), reports the lack of teacher presence and interaction in online environments, a view supported by Mtebe (2015) that most instructors within the Sub-Saharan African region do not use LMS even when they have been introduced to it. In this regard, specifically what factors could contribute to the acceptance of LMS by instructors for blended learning? Hence, this study seeks to conduct an empirical inquiry in this direction, especially in the context of distance education tutors in Ghana, the University of Cape Coast in perspective.

1.3 Statement of the Problem

The College of Distance Education of the University of Cape Coast launched an ICT integration plan to transform the mode of instruction from a traditionally face-to-face mode to a technology aided blended distance mode (Office of the CCE-UCC, 2012). Accordingly, course tutors were invited for awareness and subsequent training on how to use the FRONTER LMS (vCoDE). This was because instructors' feelings affect implementation of LMS and also play a crucial role in specifying the effectiveness, success or inefficacy of e-learning systems (McGill, Klobas & Renzi, 2014, Coskuncay & Ozkan, 2013, Wang & Wang, 2009). However, information gathered from observations and informal interviews proved an indication that course tutors still seem sceptic about the use of this technology to support face-to-face sessions. Preliminary investigation also proved that their LMS acceptance behaviour was still minimal. This was coupled by low usage throughout the academic year as indicated by the system activity records. However, low usage forms the fundamentals of the problem of lack of instructor online presence and interaction which is the hub of LMS success (Chang & Smith, 2008, Valestainos 2010, Zimmerman, 2012).

Within the Sub-Saharan African region, authors such as Dube and Scott (2014); Bhalalusesa, Lukwaro and Clemence (2013); and Mtebe (2015) complained about the unfavourable attitude and low rate of usage of LMS by academic staff even when they have received training. Park (2009) earlier indicated the non-parallelism between increasing acquisition of LMS and the rise in usage among academic staff in higher institutions (Wang & Wang, 2009). Instructors' resistance to change has been cited as a personal factor that impinges e-learning acceptance (Garrison, 2011; Nihuka & Voogt, 2012), having been accustomed to traditional modes of instruction (Rolfe, Bentley, Milne & Meyer-Sahling, 2008) despite being introduced to and

providing access to novel technologies (Nihuka & Voogt, 2012). Other literature associates teachers' reluctance to change with self-efficacy toward LMS usage (Ong & Lai, 2006), lack of ICT skills or experience (Cavas, Cavas, Karaoglan, & Kisla, 2009; Buabeng-Andoh, 2012), lack of incentives or facilitating conditions that motivate usage (Mnyanyi, Bakari, & Mwette, 2010; Saekow & Samson 2011), generational division between older and younger teachers (digital native verses digital immigrants) in responding to e-learning (Jones & Shao 2011), anxiety and attitudinal factors (Al-Busaidi & Al-Shihi, 2010; Teo & Ursavas, 2012; Pynoo, Tondeur, Van Braak, Duyck, Sijnave & Duyck, 2012). Other factors include performance expectancy of LMS, effort expectancy and the influence of colleagues towards novel technology use (Venkatesh & Zang, 2010). Altogether, the above factors could be grouped into technological and personality factors that hinder or promote LMS acceptance.

Watson (2013) reiterated that, concerns and values presented by instructors should carefully be considered when acquiring or utilizing a learning management system, as instructors are the key to guide the educational experience of students. Consequently, the need to unravel factors surrounding tutors' LMS acceptance in distance education requires a more scientific approach of inquiry, since existing models fail to capture the whole predictor and moderating factors relative to distance education in Ghana. As a result, this study hypothesizes a modified model based on the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al., (2003) and Social Cognitive Theory of Information System (SCT-IS) by Compeau and Higgins (1999) to come out with the critical antecedents underlying distance education tutors' acceptance and intention to use the vCoDE system for blended learning. The study extends the UTAUT and SCT-IS models to include

moderating variables such as location, teaching style, type of course taught and face-to-face experience to exhaust the indices of distance education. Personality factors such as attitude, anxiety, self-efficacy and previous computer experience from SCT-IS and their relationship with UTAUT exogeneous variables is also investigated to offer a comprehensive analysis of factors that will influence the tutors' acceptance of LMS. In addition, the gap in the existing literature provides a basis to also find out the non-linear relationship that exist between and among the technology related factors and personality factors in LMS-enabling blended learning studies. This fosters a better explanation of variable behaviour in the formation of acceptance behaviour pattern of tutors. Consequently, the effect of the environment or performance condition (mandatory or voluntary) on usage behaviour is essential as specific context may warrant different performance condition to achieve the needed utilization levels. There is also the need to lay emphasis on the moderating effects of attributes defining the distance education context on the incidence of the predictors of intention of LMS-enabled blended learning uptake.

1.4 Purpose of the Study

The purpose of this study is to investigate the acceptance of course tutors towards the utilization of LMS (vCoDE system) enabled blended learning to augment the face-to-face instruction in a distance education programme in Ghana. In addition, it will attempt to unravel the determinants of course tutors' acceptance of LMS, establish the relationships between these determinants and further look out for the barriers hindering the system's usage. The study finally proposes a model to predict course tutors' behavioural intention towards LMS-enabled blended learning usage.

1.5 Research Objectives

The objectives of this study are to investigate:

1. the influence of exogeneous factors (performance expectancy, effort expectancy, social influence, facilitating conditions) and personality factors (technology related attitude, anxiety, self-efficacy and experience) on course tutors' acceptance of LMS-enabled blended learning.
2. the relationships that exist between the exogeneous factors and personality factors in the proposed model.
3. the non-linear relationships among the exogeneous factors and also that of personality factors.
4. the moderating influence of demographic variables and voluntariness of use on exogeneous factors, personality factors and dependent variables in the proposed model.
5. the possible barriers that could inhibit course tutors' acceptance of LMS-enabled blended learning.

1.6 Research Questions

The following research questions will guide the study.

1. What factors determine course tutors' behavioural intention and use behaviour towards LMS for blended learning in distance education?
2. What non-linear relationships exist between personality factors and exogeneous factors (performance expectancy, effort expectancy, social influence and facilitating conditions) in relation to behavioural intention towards LMS-enabled blended learning in distance education?

3. What mediation effects exist between exogeneous factors (performance expectancy, effort expectancy, social influence and facilitating conditions) and personality factors in relation to behavioural intention towards LMS for blended learning in distance education?
4. What non-linear relationships exist between exogeneous factors (performance expectancy, effort expectancy, social influence and facilitating conditions)?
5. What non-linear relationships exist between personality factors (technology related attitude, anxiety, self-efficacy and experience)?
6. What are the significant moderating effects of gender, age, location, course taught, face-to-face experience and teaching style on predictors of behavioural intention towards LMS-enabled blended learning in distance education?
7. What are the barriers to LMS-enabled blended learning in distance education?

1.7 Conceptual framework of the study

There are several theories and models developed which can be used to study acceptance of technology, however, this research takes up the Unified Theory of Acceptance and Use of Technology (UTAUT) proposed by Venkatesh et al. (2003) and that of Social Cognitive Theory of Information System (SCT-IS) by Compeau and Higgins (1999). The justification for adapting UTAUT is underpinned by the fact that this model represents an amalgamation of eight notable models and theories in technology acceptance involving the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975), Technology Acceptance Model (TAM) by Davis (1989),

Motivational Model (MM) by Davis et al., (1992), Theory of Planned Behaviour (TPB) by Ajzen (1991), combined TAM and TPB (C-TAM-TPB) by Taylor and Todd (1995), Model of PC Utilization (MPCU) by Thompson et al., (1991), Innovation Diffusion Theory (IDT) by Rogers (1995) and Social Cognitive Theory (SCT) by Bandura (1986). The unification by these researchers sum up all the constructs from the eight models to four determinants which predict intentions and usage and four moderators of the key relationships. Since its development, UTAUT has proven to be an effective predictor of technology acceptance. Venkatesh et al., (2003) indicated that UTAUT has the ability to explain about 70% of variance in usage intention and in addition, outperforms all previous models. However, there is more to variable behaviour than just explanation of variance by the model.

The original UTAUT model has four exogenous variables; effort expectancy, performance expectancy, social influence, and facilitating conditions, two endogenous variables; intention to use technology and use behaviour as well as four moderators comprising gender, age, experience and voluntariness. Based on reviewed literature on acceptance of blended learning using UTAUT and in other instances a combination of UTAUT and SCT-IS models in related studies, a framework was proposed for this study, as depicted in Figure 1.1.

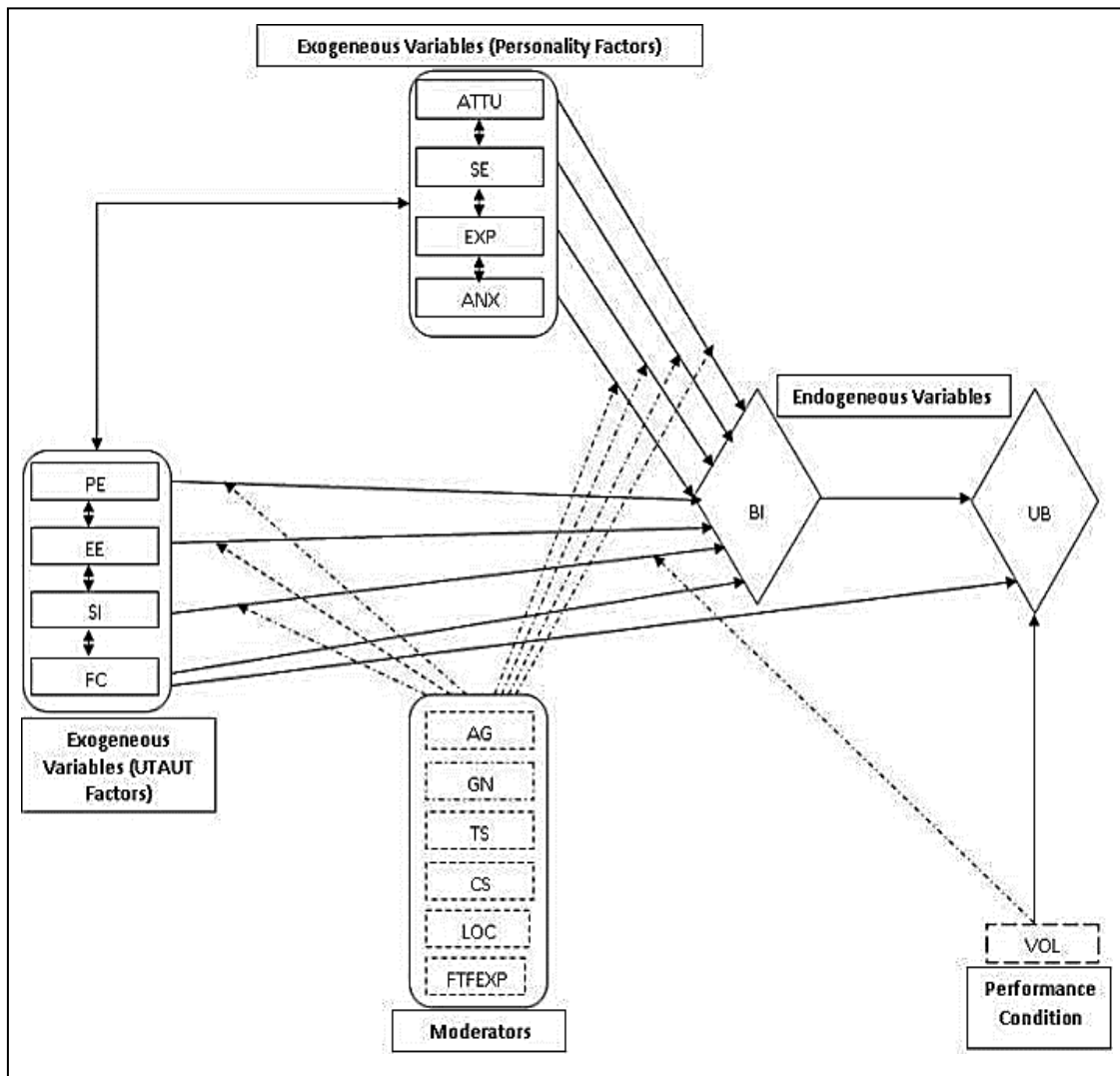


Figure 1.1. Conceptual framework for the study (Modified from Venkatesh et al., 2003 and Compeau & Higgins 1991).

Note: KEY

PE: Performance Expectancy

EE: Effort Expectancy

SI: Social Influence

CS: Course Taught

FC: Facilitating Conditions

VOL: Voluntariness

EXP: Technology Experience

ANX: Anxiety

BI: Behavioural Intention

SE: Self-efficacy

UB: Use Behaviour

LOC: Location

AG: Age

GN: Gender

ATTU: Attitude

TS: Teaching Style

FTF EX: Face-to-face Experience

With reference to Figure 1.1, the proposed model retains the four exogenous variables; effort expectancy, performance expectancy, social influence, and facilitating conditions and two endogeneous variables; behavioural intention to use technology and use behaviour. To fit adequately into distance learning attributes, six other variables (gender, age, location, face-to-face experience, teaching style and course taught) have been added to voluntariness as moderating variables. Location has been added because course tutors and centres span throughout the country and could influence their acceptance of technology as indicated by Cassim and Obono (2011). Additionally, attitude has been proven to have an effect on the four exogenous variables and can even predict behavioural intention (Dulle & Minishi-Majanja, 2011; Oye, Iahad, & Rahim, 2012; Adjin-Tettey, 2014; Nassuora, 2012; Surej, 2015). Furthermore, the inclusion of anxiety, experience and self-efficacy is based on findings from Kohnke, Cole and Bush (2014), Echeng, Usore and Majewski (2013) and Oye et al., (2012) who concluded that they have effect on exogenous variables and could predict behavioural intention to use technology.

Additionally, the inclusion of course taught by tutors makes a crucial component of moderating variables for the study. Course taught by course tutors is also a variable of interest as suggested by Cigdem and Topcu (2015) to have moderating effect on the four exogenous variables in the UTAUT model. Furthermore, the study added face-to-face experience because course tutors have varying experience in face-to-face which could moderate the influence of the predictors of their behavioural intention. Furthermore, teaching style of course tutors has been included due to its effect on technology uptake (Gilakjani, 2013). The inclusion of the additional moderating variables is to provide a comprehensive result on the exact and pseudo factors that affect course tutors' acceptance of technology.

In addition, the study will analyze whether there exists a statistically significant relationship between the exogenous variables and the moderating variables. The moderating variables will also be tested on significant personality factors that predict behavioural intention. Furthermore, it is expected that key exogenous variables that influence behavioural intention will be unraveled. Additionally, the study seeks to find out whether a reciprocal mediation effect exists between key UTAUT exogeneous constructs and personality factors.

Kock (2016), Rondan-Cataluña, Arenas-Gaitán and Ramírez-Correa (2015), Salim, Sedera and Sawang (2015) emphasize the importance of modelling non-linear relationships in models within studies. This is to exhaust possible interrelationships that exist among variables that could offer better explanations of variable behaviour in a model. In view of this, the study also focuses on testing for relationships that exist among the personality factors independently, as well as those that are significant among the UTAUT exogeneous factors within this study.

Finally, the proposed model will be used to predict course tutors' overall acceptance of LMS in a blended learning environment in distance education delivery.

1.8 Hypotheses

Based on the proposed framework, hypotheses were formulated to test the relationships of variables and their possible prediction of behavioural intention among Course Tutors in distance education to accept and use FRONTER LMS (vCoDE). These hypotheses are proposed and tabulated in chapter three.

1.9 Significance of the Study

The study has the following significance:

1. The study forms a key component of a project portfolio on integration of LMS enabled blended learning into the distance education programme by the University of Cape Coast in Ghana. Findings from the study prove fundamental in addressing pre-implementation issues bothering on acceptance needed to be addressed prior to full implementation. These findings will provide information on teething antecedents that could stifle the success factor of the LMS project, with specific incidence on course tutors. It will provide a direction to what should be done in relation to tutors' needs and concerns prior to implementation in order for the implementers to provide mitigating measures that will ascertain a successful blended learning project. Decisions to retrain on LMS usage, provision of education on what blended learning is all about or provide certain technological gadgets or assistance to them or otherwise, will all depend on the findings. This will prevent major post implementation problems on the part of instructors and enable a down to top approach which is directly opposite to the usual top down approach that is always beset with huge post implementation setbacks.
2. The study is a premier of a kind in the Ghanaian milieu, especially in the arena of distance education. It thus serves as a blueprint from which other institutions venturing on LMS implementation in distance education programmes could begin from. Recommendations and suggestions from the study will inform other institutions on the key flagging determinants needed to concentrate on for smooth take off.

3. The findings of the study supplement and further augment acceptance studies in distance education that have utilized the UTAUT and SCT-IS models. Specifically, a further validation of the role of personality factors in SCT-IS included in the UTAUT model and their relationships with UTAUT exogenous factors in determining behavioural intention as well as other moderating factors that did not have original inclusion in the UTAUT and SCT-IS models.
4. The hypothesized model developed for the study after empirical validation, will provide a front which is specific to predicting acceptance of LMS, definite to distance education, based on the attributes of this form of educational delivery. This will be mostly significant in the Ghanaian context and other countries with similar modelled distance learning.
5. Finally, the findings in the study contribute to the body of literature in determining factors that influence course tutors in distance education, in their quest to accept the use of LMS for blended learning. It will also serve as a reference point for future researchers who may want to expand the frontiers of this study in other domains of distance education provision in Ghana with respect to technology integration and acceptance of tutors.

1.10 Limitations of the Study

This study, akin to all other research, cannot be devoid of limitations. The following limitations are therefore inherent:

1. The study was limited to only course tutors of the distance education programme at the University of Cape Coast at the expense of all other tutors of distance education from other universities in Ghana.

2. The study also focused on only course tutors who are officially regarded as part time tutors on the college's pay roll and does not cover full time university faculty members. It is independent of regular lecturers and administrators.
3. The study focused only on course tutors without taking into consideration the distance education students in the University of Cape Coast (and other universities in Ghana) who are also stakeholders and at the receiving end of the blended instruction.
4. Even though a mixed method approach is adopted for the study, only involved questionnaire (for almost all course tutors) and interview (for relatively fewer tutors) with the qualitative data used to support only the first and last research questions.

1.11 Delimitations

Although the study draws its sample from distance education centres across the country (Ghana), all these centres belong to the University of Cape Coast only. Other centres from other universities are not included because they are yet to consider incorporating LMS into their distance education mode. However, the results can be generalized within the total population of all the tutors at the various study centres across the country who belong to the college of distance education, University of Cape Coast.

1.12 Operational Definitions

For the purpose of this study, certain technical terms have been expressed which need to be defined based on context of use, in order to avoid ambiguities. These terms are explained below.

1.12.1 Distance Education

This is the form of education where instructor and students are separated by geographical location and time during the majority of instruction (Johnson, 2003; Anderson & Dron, 2010). In this study, distance education is the mode of study where teaching and learning between instructors and students are separated by time and space, in which students are given modules to learn on their own and occasionally (fortnightly on weekends) meet for traditional face-to-face sessions from various locations, with a support service channel provided through centre coordinators and regional resident tutors.

1.12.2 Blended Learning

Burns (2011) defines blended or hybrid form of distance education as the type of education which involves a blend of face-to-face and online instruction-from 30-70 percent- of the latter. In this study, blended learning refers to a form of distance education that uses online collaborative elaboration to augment traditional face-to-face, mediated by a learning management system. It serves as a virtual continual convergence between tutors and students in order to extend the classroom interaction and discussions on issues taught and topics yet to be treated at face-to-face. Students will have access to the digital version of their printed modules, announcements, schedules, assignments and academic results online. In addition,

other useful online and interactive resources, as well as linking websites that promote academic work will be made available through LMS to students.

1.12.3 Learning Management System

According to the World Bank (2010), LMS is a software package that automatically administers education and trains human resources. It is the use of a Web-based communication, collaboration, learning, knowledge transfer, and training to add value to learners and businesses. LMS supports e-learning activities such as presenting information, managing course materials, collecting submissions from students and evaluating students (Yueh & Hsu, 2008). In this study, the FRONTER (vCoDE) LMS was used as the referenced LMS that hosts the afore-mentioned activities for blended learning in the distance education programme of the University of Cape Coast.

1.12.4 Tutors

Tutors in this study are instructors employed to facilitate on the University of Cape Coast distance education programme. They come from varied fields of endeavours and are all not necessarily in the education circles even though most of them are in education.

1.12.5 Performance Expectancy (PE)

This is the extent individuals believe a newly introduced system will help them do their jobs better (Venkatesh et al., 2003). Within this study, the variable explains tutors' expectations of Learning Management System towards the achievement of instructional and personal goals in distance education delivery.

1.12.6 Effort Expectancy (EE)

This relates to how an individual believes a newly introduced system will be easy to use (Venkatesh et al., 2003). In the context of this study, this factor explains the easiness or otherwise of LMS use, as perceived by tutors for blended learning activities in distance education.

1.12.7 Social Influence (SI)

This relates to whether or not important others' influence an individuals' intention to use a newly introduced system (Venkatesh et al., 2003). The variable is explained within this study as the extent to which tutors believe that their colleagues and other referent others influence them towards LMS use for distance education delivery.

1.12.8 Facilitating Conditions (FC)

This explains whether individuals have the personal knowledge and institutional resources available to use a new system (Venkatesh et al., 2003). In the context of this study, the variable refers to the extent to which tutors agree to the availability and accessibility of resources (both human and technological) in supporting them towards LMS-enabled blended learning in distance education.

1.12.9 Self-Efficacy (SE)

This is a belief in one's own abilities to perform an action or activity necessary to achieve a goal or task (Bandura, 1995). Tutors' self-efficacy beliefs in this context refer to their confidence in using LMS for blended learning purposes in distance education.

1.12.10 Voluntariness (VL)

The extent to which potential adopters perceive the adoption decision concerning a system to be non-mandatory (Venkatesh et al., 2003). In this study, the variable defines how tutors perceive the use of LMS for blended learning purposes in distance education to be either liberal or coerced.

1.12.11 Anxiety (ANX)

This refers to the degree of an individual's apprehension, or even fear, when he or she is faced with possibility of using computers and other related technologies (Venkatesh et al., 2003). In this instance, it refers to the feelings of tutors towards LMS use for blended learning in distance education, in relation to fright or apprehensiveness.

1.12.12 Attitude (ATTU)

This is individuals' evaluative judgement whether favourable or unfavourable towards an object or behaviour (Elias, Smith & Burney, 2012). Within the context of this study, it is technology related and refers to course tutors' positive or negative feeling about using LMS to perform distance education based instructional practices.

1.12.13 Behavioural Intention (BI)

This is the degree to which a person has formulated conscious plans to perform or not to perform some specific future behaviour (Davis, 1989). The study considers this variable to be the intentions of tutors towards the utilization of LMS for blended learning activities in distance education.