Towards an Institutional Blended Learning Adoption Model for Higher Education Institutions

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Abstract

There has been considerable interest in Blended learning (BL) and how it is transforming teaching and learning in higher education institutions. Research in this area is focused on course level issues in relation to how students and faculty members interact and adopt blended learning, with very limited focus on institutional adoption. There is the need for more institutional adoption research to guide how higher education institutions shape policies as they transition from the traditional face to face delivery model to fully blended universities. This study adopts a grounded theory methodology to investigate institutional BL adoption initiatives. A public university in Ghana, which is in its early/adoption implementation stage, is selected as a case study and analysed using the constant comparative analytical technique. The university management took a decision in 2013 to transition from face to face delivery to a fully adopted blended learning approach. The university subsequently adopted a BL policy which, among other things, directed faculty members to teach courses via a mix of face to face and online using a Moodle Learning Management System (LMS). Findings from this study present the identified factors that influence and impact the adoption of BL program in institutions. Findings from this study suggest that institutional decision to adopt or reject BL is influenced by the level of the institutional desire to adopt blended learning and the level of the institution's intention to adopt blended. The outcome of the findings is developed into an institutional adoption model to guide managers of institutions intending to transition to BL delivery model.

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1 Introduction

The term Blended Learning (BL) has gained wide usage among researchers and academics in Higher Education Institutions (HEIs) around the world (Apandi & Raman, 2020). For more than three decades the utility of BL has allowed universities to transition from purely face to face education to BL institutions (Bohle Carbonell et al., 2013). BL involves the integration of face to face and online delivery methods in optimal combinations to produce effective, efficient, and flexible learning experiences that improve students learning outcomes (Stein & Graham, 2020). BL is famed to be the "new normal" to replace the traditional face to face delivery currently in use in universities (Dziuban et al., 2018). Students learning styles are changing and thus prefer flexible and unique learning experiences. Also, pressures from competition on universities demand innovative cost saving strategies hence BL adoption is being viewed as a delivery approach that can address the multiplicity of competing demands on the academy and at the same time deliver value for money both cost and quality in terms of teaching content wise (Siddiquee et al., 2019). BL provides benefits that increase access to educational opportunities, improves learning and decreases (or more flexible) costs (Stein & Graham, 2020). The value derived from BL is making the teaching approach ubiquitous and integrated into the modern lifestyles of students, faculty, and teachers.

However, successful BL adoption and implementation of BL in universities require considerable stakeholder engagement (Blieck et al., 2020). Indeed, university managers must make available the required infrastructure and resources to hold the universities in readiness for BL programs (Bokolo et al., 2020). For instance, when students and faculty members do not receive the required institutional support during BL delivery, studies by (Gautreau, 2016; Owston et al., 2019; Previtali & Scarozza, 2019) have shown that it leads to apathy and subsequent failure of BL implementation. Impliedly, administrative managers from the meso level (the management) and micro level (the faculty responsible for courses/modules in a program) should engage to arrive at mutually beneficial arrangements that are appropriate (Blieck et al., 2020).

BL can be used as a strategy to reduce educational inequalities among developed and developing countries (Adebayo et al., 2019). There are wide varieties of institutional BL adoption success stories (Taylor & Newton, 2013; Dziuban et al., 2018; Liu et al., 2020), at the same time there are reported cases of BL implementation failures, (Rasheed et al., 2020). Universities face challenges when redesigning courses for BL delivery (Tshabalala et al., 2014). Ghanaian universities like many universities in developing countries are confronted with challenges (Atuahene & Owusu-Ansah, 2013; Mirata et al., 2020). Some of these challenges include inadequate infrastructure such as classrooms that can create access to cater for qualified candidates who gain admission, reduced governmental support in terms of funding, political interference that often results into labour unrest and many others (Atuahene & Owusu-Ansah, 2013). More recently, in 2017 the Government of Ghana adopted a policy to make education from the basic level to the senior high school free. With this, it is envisaged that by (sic 2019/2020) academic year over one hundred thousand students would graduate from senior high school and would be expected to compete for the limited spaces in the already over stretched public and private universities (Tamanja & Pajibo, 2019). As a response, universities have been adopting innovative teaching and learning solutions that can address the issue of inadequate infrastructure on campus (Kotoua et al., 2015). Institutions in Africa such as the University of Cape Coast, University of Ghana and Kwame Nkrumah University of Science

and Technology have created distance learning centres across the sixteen regions of the country in order to bring tertiary education to the door steps of students as well as ease the burden on on-campus infrastructure (Kumi-Yeboah et al., 2013).

To transform the educational curriculum and make it responsive to stakeholder needs (Bokolo et al., 2020) universities in Ghana are integrating technology into the teaching and learning curriculum and are delivering BL programmes (Bervell & Umar, 2020; Blankson, 2015; Marfo & Okine, 2016). With BL set to be the "new normal" (Dziuban et al., 2018) of teaching and learning a number of institutional initiatives have been reported (Garrison & Kanuka, 2004; Garrison & Vaughan, 2013; Güzer & Caner, 2014). However, more often than not, institutional BL policies, and visions that drive implementation fail because academics who are required to teach in BL mode become resistant and hesitant to adopt such innovation (Asunka, 2013; Buchanan et al., 2013). BL initiatives require financial resources to be fully implemented (Taplin et al., 2013) even though it is viewed as a more cost effective approach (Kituyi & Tusubira, 2013). Adopting BL requires institutions to step out from their comfort zones and embrace some associated degrees of risk (Bohle Carbonell et al., 2013). BL, as an innovation, is pervasive to the extent that even the smallest of attempts at implementing on a pilot basis has the potential to be disruptive of academic processes (Casanovas, 2010). In a sense, owing to its pervasiveness, managers desirous of introducing and implementing BL ought to approach the process well informed and with some degree of tact. Therefore, it is imperative that managers intending to introduce BL in institutions of higher learning understand the BL implementation process and the conditions under which stakeholders are willing to adopt or not adopt BL (Liu et al., 2020).

Accordingly, this study addressed the following research questions: What factors influence university managers to adopt BL and how does this understanding inform the development of an institutional blended learning adoption model?

Therefore, this study investigates a public university in Ghana with BL adoption initiative that is in early/adoption implementation stage (Graham et al., 2013). According to Graham et al. (2013), universities at the awareness/implementation stage have instituted BL policies that guide the institutions' transition to campus wide adoption of BL. The university management took a decision in 2013 to transition from face to face delivery to a fully blended university. They subsequently adopted a blended learning policy, which among other things, directed faculty members to teach courses via a mix of face to face and online modes using a Moodle Learning Management System (LMS). Findings from the literature (Ansong et al., 2017; Asante, 2014; Awidi, 2013) suggest that some Ghanaian universities have adopted and implemented BL. They found that issues related to policy incoherence, lack of top management support, lack of technical support and faculty resistance constitute barriers that impact against the institutionalization of BL programs. However, there are very few BL institutional adoption models to date that focus on understanding the nuances of BL implementations until institutionalization is achieved (Adekola et al., 2017a). Graham et al. (2013) institutional adoption framework remains the most common and widely cited framework that serves as a guide for HEI managers. This paper provides insights into factors influencing and impacting BL from a developing country's perspective and theorizes the outcome into a BL institutional adoption model that contributes to understanding BL institutional adoption.

The remainder of the paper is structured as follows. Section 2 is the literature review; and Sect. 3 is the methodology. Section 4 presents the results and Sect. 5 is the discussion segment. Section 6 is the implications of study while Sect. 7 is the conclusion.

2 Literature Review

This section presents an overview of BL and introduces the BL adoption in HEIs in Ghana and reviews various institutional BL adoption models found in literature.

2.1 Overview of Blended Learning

Currently, innovative educational approaches such as BL are being adopted in higher education to provide learners and educators with a pioneering learning environment to encourage and improve teaching and learning activities. BL is described as the combination of conventional Face-to-Face (F2F) teaching and online teaching and has been commonly adopted in institutions as it has the benefits of both traditional delivery and online approaches (Yeou, 2016). Findings from recent studies suggested that the integration of BL approach improves students' learning engagement and experience as it forms a positive effect on learners' perceptions regarding the learning environment and their study strategies.

Additionally, BL moves the focus from teaching centric to learning based which supports students to become more engaged in the educational process and more interested and, as a result, it improves their perseverance and commitment (Bokolo et al., 2020). Thus, in higher institutions, BL adoption usually involves F2F and other corresponding online learning delivery methods. Normally, students attend traditional lecturer-directed F2F classes with computer mediated tools to create a BL environment in gaining experiences and promote learners' learning success and engagement (Baragash and Al-Samarraie, 2018). In fact, Graham et al. (2013) projected that BL will become the new course delivery model that employs different media resources to strengthen the interaction among students. Therefore, BL is adopted across both developed and developing countries such as in USA, Canada, Ghana, etc.

2.2 Blended Learning Adoption in Ghana

The traditional face to face delivery method is the predominant delivery method in Ghanaian universities but in recent times there has been a gradual shift towards a mix of face to face and online learning. In some typical cases BL is substituting the face to face delivery (Tawiah et al., 2019). However, many faculty members have very limited knowledge or exposure to ICTs and hence lack the foundation to teaching BL (Bervell & Umar, 2020). In many universities, the infrastructure for technology related artefacts that support BL are non-existent. ICT tools and equipment like computer laboratories, projectors, lecture workstations, video conferencing facilities, stable and reliable internet connectivity are woefully inadequate (Asabere et al., 2017). Nonetheless, if these facilities are put in place, there is potential to see universities adopt and implement BL strategies.

Marfo and Okine (2016) studied The Kwame Nkrumah University of Science and Technology e-learning implementation process. They investigated the advantages and disadvantages of e-learning in the Ghanaian context. Their study focused on the strategies that the university adopted in the implementation process. Interestingly, their study revealed that the e-learning program had been well received by stakeholders but faced significant resistance due to poor implementation strategies. The study revealed the lack of coherent policies that

clearly articulated the institutional vision. Students views on the process indicated that, there was no adequate awareness created whiles faculty members were also of the view that wholesale implementation of the project was wrong.

Ghanaian students perceive teaching in BL as being "time consuming and complex endeavour" (Asunka, 2008). It has also been observed that students' technology competence is low. Asampana et al. (2017) investigated the causes of poor acceptance of technology by students in Ghanaian universities. The study adopted a mixed method approach and found that although students generally held positive views about BL, technical challenges relative to inadequate technical support, poor training, infrastructure deficits such as computer labs, I.T and poor quality delivery impacted negatively on students' intentions to adopt BL.

2.3 Existing BL Institutional Adoption Models

Institutions developing BL model implementation programs should carefully analyse the institutional resources available and the stakeholder needs (Kituyi & Tusubira, 2013). There are several institutional BL adoptions models in literature (Adekola et al., 2017a, 2017b, 2017c; Graham et al., 2013; Khan, 2002). Kituyi and Tusubira (2013) proposed a framework for integrating BL into institutions in developing countries using data collected from students and staff from five universities in Uganda. The findings indicate that the requirement for successful integration of BL include the harmonization of course content in an effective manner such that participants derive the best out of the F2F, and online media components used for the teaching delivery. To operationalize the model, Kituyi and Tusubira (2013) propose three scenarios that can help university mangers in the integration process. The authors suggest that BL integration should involve the before, during and after integration stages. Kituyi and Tusubira (2013) further suggest that initiation of BL is the primary responsibility of university management. Thus, it is imperative to set up committees that would identify the prospects for BL, identify the activities that would be involved and develop a budget to support and sustain the integration process.

Graham et al. (2013) developed the institutional adoption model using six traditional universities in the United States as case studies. These institutions exhibit growth patterns that are grouped into three categories: (1) awareness/exploration, (2) adoption/early implementation, and (3) mature implementation/growth. In the awareness stage, universities were engaged in refining and clarifying issues related to BL. Here, efforts are put into developing institutional governance mechanisms that help realign core university systems (like course registration) to reintegrate new BL course offerings. Early adopter/implementation stage universities adopt BL policies and have faculty members experimenting and engaging with BL as an innovation with the desire to make it succeed. Stage two universities put in structures to provide incentives and pedagogical support for faculty members to make the BL initiative succeed. Those in the mature/growth phase have fully blown and well-designed BL implementations with policies and structures that shape BL programs. They propose an institutional framework built on structure, support and strategy (Graham et al., 2013).

3 Methodology

A case study methodology was adopted for this study. The case study has been applied in IS research to study phenomenon in their natural setting. Case study research allows the researcher to probe and capture deep and valuable insights of the subject. In this specific

context, the use of case study methodology enabled the examination of BL adoption and its complexities within an institution with reference to the lived experiences of administrative managers, their motivations and how they construct their decisions towards implementing BL. Each administrative manager was considered as an individual case study needing to be deconstructed to understand the complex influences of adoption. Cumulatively data from other administrative managers and these individual case units of inquiry composed the larger case which was the institution.

The latitude and degree of focus that case study methodology provides could not be achieved using a different methodology. However, the disadvantage of case study methodology is that findings are not generalizable. As findings from case studies represent snapshot of events or phenomenon within a context at a giving time, applying the findings post the research becomes problematic because of its inability to capture the dynamism of processes and developments within the case study organisations (Samarawickrema & Stacey, 2007).

3.1 Case Study Institution

The case study university is in Ghana with multi-campuses across five out of ten regions. It has a student population of about 8300 and 320 faculty members. The university is in early/ adoption implementation stage (Graham et al., 2013). The BL approach adopted by the university involves combining face to face delivery with online technologies via uploading teaching materials online and integrate same into her teaching curriculum. Accordingly, the university created a new Centre for Online Learning and Teaching to facilitate the BL process and was tasked with the responsibility to train faculty members in the rudiments of instructional technology. An Academic Board review in 2016 found that faculty members were still teaching face to face and had not adopted BL. The status of the implementation this far has it that despite all the training, two thirds of faculty members still teach face-to-face. The few who did use the institutional LMS used it sparingly and when they did, they used it to convey information and announcement to students rather used it for any meaning BL engagement. The review in 2016 found very few student logs and activities and concluded there was a need for a more concerted approach to address these challenges.

3.2 Research Design

The purpose of this study was to investigate the issues surrounding why after seven years a BL implementation initiative in a Ghanaian public university had not achieved its intended objective of being a fully-fledged BL university. In addition, this study sought to use the outcome to develop an institutional adoption framework to guide university managers implementing BL programs. To realize the research objectives, the study adopted a Grounded Theory (GT) (Glaser, 2002) methodology within a case study. In seeking to investigate a social phenomenon and to appreciate the lived experiences of the participants, a GT methodology is most appropriate (Nunes et al., 2010).

3.3 Data Collection

Twelve out of 27 key management staff of the university were purposively selected and interviewed during the study. The corresponding author selected administrators and

academic leaders who had first-hand knowledge of the university's BL program and in positions to influence policies and were directly responsible for the BL implementation process. The participants included the Vice President, Registrar, Deans, and Heads of Department. Interviewee demographics are provided for in Table 1 of the next section.

An interview guide was designed to facilitate the interview process. The questions were inductively designed without a prior theory. The questions that were asked explored issues related to drivers of BL, BL policies, implementation strategies, institutional vision, BL challenges etc. The participants were emailed the interview guide to enable them to familiarize themselves with the questions that were asked. This gave them enough time to prepare adequately and give accurate responses to the research inquiry. The interview session lasted between 35 and 55 min and was conducted in the comfort of the offices of the interviewees. The unstructured interview approach that was adopted explored the issues in detail much more than a structured interview would have achieved (Rowley, 2012). The interviews were done by the researchers in Ghana between October 2019 to December 2019. Consent was sought from the interviewees to record the interviews on a portable mini recorder that was procured purposely for the research. This ensured that the details of the interviewees accounts were accurately captured and subsequently reported. Some of the interviewees provided documents related to the BL program such as the institutions BL policies, guidelines, and departmental approval forms.

3.4 Data Analysis

Data analysis was carried out in two stages. First, the recorded interviews were transcribed from audio records into textual data. This was done by listening to the audio files and manually writing down what was being heard. In all, large volumes of transcribed texts were generated and stored into file folders in NVIVO 12 data analytical software package which was used in the analysis process. To ensure credibility and trustworthiness of the data, the transcribed texts were sent to the respective interviewees to validate the transcripts. The interviewees provided clarifications of the records where there were inconsistencies, or their views not appropriately captured.

In the second phase, the constant comparative analytical technique of GT was applied in the analysis of the data. This analytical method involves the breaking down of texts or words into chunks through a systematic process of comparing and looking for meaning in the textual data (Lysek, 2018). The analytical procedure used follows the canons of constant comparative analysis (Charmaz, 2015). Thus, the corresponding author read the text over and over again to immerse himself into the data so as to get to know what

Table 1 Respondents Demographics

Category of respondents	Number of respondents	Gender		Years of industry experience
		Male	Female	
Deans	3	3	0	≥ 10 years
Heads of department	5	2	3	≥ 10 years
Registry	4	2	2	≥ 10 years
Total	12	7	5	

Source: Fieldwork, Authors Construct (2020)

the lived experiences of the interviewees could be or were (Glaser, 2002). Thereafter, the coding process begun. This involved reading the text line by line and assigning a code to the meaning derived from the texts. As the process continued, these codes were constantly compared with each other and refined to ensure codes were assigned to the right thought processes in the data. Over eighty-nine codes in all were generated from the transcripts. Codes bearing similar meanings were compared and grouped together and abstracted into higher order categories in a process termed axial coding. The same process was repeated for the codes in the axial code categories. At this stage, selective coding was done by abstracting and assigning implicit meanings to what the codes in the axial codes' category were reflecting. The process ended when there was no new meanings or fresh ideas emerging from the codes in the selective coding category. At this stage, the data was deemed to have reached saturation.

At this stage, the memos that had been written in the earlier stages were revised and internalized theoretically to understand the connections between the codes. "Memo writing is an intermediate stage of writing that bridges coding data with drafting the theoretical analysis" (Charmaz, 2015, p 405). A core category emerged from the data which became the central theme which most of the construct revolved around (Licqurish & Seibold, 2011). The selective codes were theorised to establish the relationships among them and how they connected with the emerged core category (Georgieva & Allan, 2008). To achieve this end, a paradigm framework was used to hypothesise the relationships of the constructs to the core category to understand how they lead or contribute to determining institutional adoption of BL. In the process, a hypothesis was generated for the study and is presented in the subsequent section. Subsequently, detailed descriptions of the categories relating to the unique coding, axial coding and selective coding that were inductively translated into factors for and against institutional BL are presented in Table 2. The initial unique codes that were generated are attached in Appendix 1.

4 Findings

This section presents the respondent demographics, a summary of the interview responses and the findings from the analysis.

4.1 Respondents Demographics

Out of the twelve senior members of the university that were interviewed, five were females and seven males. The respondents were made up of heads of department, deans of faculties, registry, and administrative staff. They all had over ten years of relevant experience in their respective fields and had extensive understanding of the university's BL program either on the policy or implementation levels. Table 1 describes the demographics of the research respondents.

4.2 Summary of Respondents Interviews

As an overview, the interviewees responded to open ended semi-structured questions that inquired about their experience with BL, the drivers and motivation for adopting BL and the institutional challenges impacting against BL adoption. The respondents expressed a positive view about BL. Most of the respondents did mention that the

Table 2 Theoretical Coding to Derive the Core Category

		Axial codes 2	Axial code 3	Selective code 1	Selective code 2	Selective code 3
Factors against	1	Unwilling faculty	Institutional desire to reject BL	Decision confirmation/Disconfirmation (Central theme)	Institutional decision to reject BL	BL rejection
	2	Insufficient institutional resources				
	3	Unsupportive pedagogy				
	4	Implementation unviability	Institutional intention to reject BL			
	5	Potential financial loss				
Factors for	6	Supportive pedagogy				
	7	Willing faculty	Institutional desire to adopt BL		Institutional decision to adopt BL	BL adoption
	8	Sufficient institutional resource				
	9	Implementation feasibility	Institutional intention to adopt BL			
	10	Financial consideration (profit motive)				

Source: Fieldwork, Authors Construct (2020)

decision to adopt BL was informed by the belief that the teaching landscape was evolving. The point was made that new media and technology were becoming a part of the everyday lives of students. They observed that student learning lifestyles were changing from being just receivers of information from their teachers but want a stimulating experience that engendered critical thinking and knowledge sharing. As a result, being university managers, they saw it as a matter of prudence and necessity to be forward thinking and adopt to the changing trends. This for the respondents, prompted the need to opt for a teaching and learning approach that satisfies students' learning preferences and addresses their needs.

The respondents also mentioned several other considerations but most importantly, they indicated that stakeholders' considerations were a key determinant driving the adoption process. First, they mentioned the role faculty members within the university had to play to ensure BL success. The respondents expressed the view that whiles decision -making was made at the meso level of the institution, it was imperative not to discount the important role willing or unwilling faculty members could play in the adoption of BL. In that, implementing BL without the necessary stakeholders' consultations and engagement was bound to generate apathy or failure. Thus, the respondents indicated the need to get faculty to buy into the processes leading into and after the implementation process.

Most importantly, the respondents held the view that beyond the above, BL adoption is a core managerial function that should be dictated by a holistic analysis of the institutional needs and capacity to inform management decision- making. So, for the respondents, among the key considerations that institutions need to consider in BL adoption are the questions of how desirous management and what factors are informing institutional intentions. The answers to these are drawn from the analysis of the interviews. First, is a set of factors that positively influence administrative or institutional managers to adopt BL. Second, a set of factors that impact negatively on administrative managers' decision to adopt BL. Third, a central hypothesis generated to theorise the relationship between these set of factors to establish the basis for an institutional adoption model.

### 4.3 Requirements/ Factors Influencing Management's BL Adoption

From the results obtained, the requirements/factors influencing the institutional adoption as presented in Table 2, the researchers theorised the outcome into five inductive categories, namely, potential financial consideration, supportive pedagogy, sufficient institutional resources, willing faculty, and implementation feasibility. The results were further refined to ensure that each identified construct is single and non-ambiguous. They were further abstracted and those with common properties were grouped into the same sub-category. Following this procedure, two sub-categories emerged for the factors contributing to institutional BL adoption. These were institutional intention to adopt BL and institutional desire to adopt BL. Accordingly, the sub-category for institutional intention to adopt had potential financial profit and implementation feasibility as the external constructs whiles the sub-category for institutional desire to adopt BL had willing faculty, sufficient institutional resource and supportive pedagogy. See Table 2 for theoretical coding analysis used in deriving the outcome of the core category and subsequently the development of the institutional model.

4.4 Generating Central Hypothesis for Model Development

Institutional decision emerged as the core concern for the study. Using a paradigm model, a central hypothesis was generated through a theorising process to establish the relationships and properties between the constricts/constructs and how these relationships could be developed into a model. The emerging theory was that institutional decision to adopt or reject BL is influenced by the level of the institutional desire to adopt BL and the level of the institution's intention to adopt BL (Fig. 1).

4.5 Development of an Institutional Model for Blended Learning Adoption

Having identified the core concern and its related influencing constructs, an institutional BL model was developed. In this model, institutionalizing BL in universities can be achieved through viewing BL from a faculty, institutional and pedagogy perspectives. The details of these are discussed in the next section.
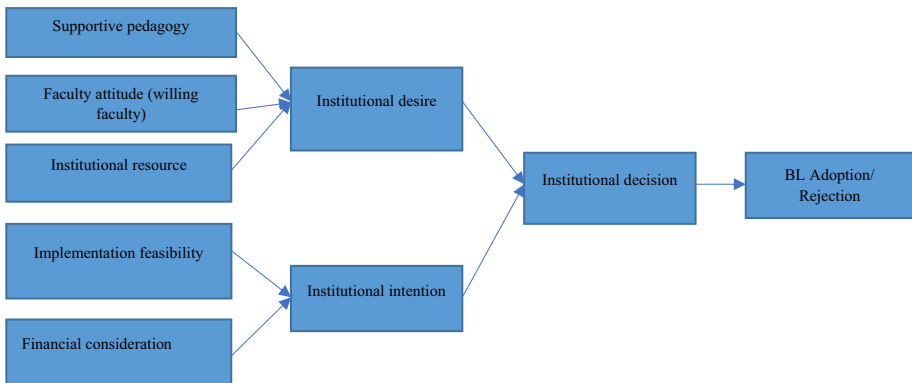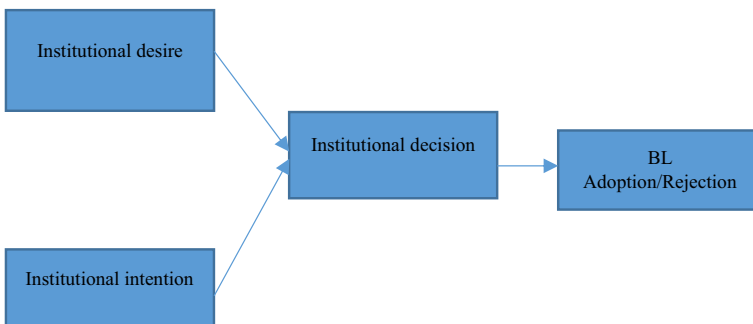

Source: Authors Construct (2020).

Fig. 1 Theorized Relationship Informing the Central Hypothesis. Source: Antwi-Boampong and Bokolo (2021)

5 Discussions

As a delivery approach, BL is proving to be the game changer in HEI as it has come to gain wide acceptance. There is sufficient evidence to suggest that the present and future survival of HEIs will be dependent on how well the utility of educational technology is harnessed and integrated into the educational curriculum (Norberg et al., 2011). Adekola et al. (2017b) indicate that today's students want an educational experience that is intellectually engaging, that stimulates curiosity and provides avenues for interaction with educational resources that are available outside the classrooms. Therefore, any educational experience that does not evolve to accommodate these students' preferences will be doomed to failure. Studies have shown faculty members are responding to this new trend and are teaching in BL albeit with some challenges (Adekola et al., 2017c; Ocak, 2011; Tshabalala et al., 2014). Although it is faculty and students that are viewed as the primary stakeholders that must use the delivery approach, the role institutional managers must play cannot be underestimated. Thus, using the lived experiences of institutional managers in a public university, this study has developed an institutional adoption model for higher education institutions which posit that institutionalizing BL in universities can be achieved through viewing BL from a faculty, institutional and pedagogy perspectives.

Institutionalizing BL requires that faculty members be willing to teach in BL mode. This requirement is perhaps a critical indicator that can be used to evaluate faculty adoption in the implementation process. Intrinsic and extrinsic motivations of faculty members that relate to the technology competence of faculty members, the students disposition to BL and the fitness of BL to the choice of the pedagogy have all been found to influence faculty adoption (Gautreau, 2011; Pereira & Figueiredo, 2010). In this regard, universities must provide the needed institutional resources that go to motivate faculty members to make them predisposed to the idea of using BL for teaching. Additionally, faculty members construct time as a major issue affecting their willingness to adopt BL (Moser, 2007). The argument is advanced that redesigning courses, undergoing training programs and uploading course materials are viewed by faculty members as constituting extra workload, thus institutional managers can address this by providing technical support centers to assist faculty members navigate through these challenges. Similarly, universities should have existing plans with clear onboarding strategies that have room for capacity building. Also, those that address faculty technology challenges should be considered.

BL, as an approach, must be applied to programs that are delivered with the right pedagogic approach (Asunka, 2013). Institutional implementation should reflect on what kind of pedagogic approach is best fit to support BL. For example, Aalborg University uses the problem-based learning pedagogic approach. In this approach, there is strong emphasis on student centered learning where students work in collaborative teams to solve problems. Giving the need to work in collaborative teams, BL can support such a pedagogic approach because the utility of the blend provides for collaborative learning (Koehler et al., 2009; Korpelainen, 2011). Accordingly, institutional policies must clearly define the pedagogic approach, spell out roles of stakeholders and what their responsibilities are and what users should expect. Enrolling into BL programs for many students is a new experience just as

teaching in BL mode is also for faculty members. The uncertainty surrounding how to approach BL regarding information sharing, orientation and training are core institutional responsibility that needs to be addressed from the onset. For example, how do institutions manage tensions that may arise from cohorts that are spread across different geographical areas yet to be signed up for BL programs? There ought to be clear institutional mechanisms that outline how BL courses will be run. For many universities, the discretion is left to faculty members to determine how to organize students, and the structure and format of BL courses(source). However, at the institutional level, policies and frameworks must be developed to guide against over boarding/overburdening or discretionary abuse. Faculty and students' anxieties must thus be addressed and managed through the provision of pedagogic and technical support.

Findings from prior studies (Maloney et al., 2015; Taplin et al., 2013) suggest that BL is a cost effective approach that addresses issues of inadequate spacing, improves academic workflow processes, provides educational access to allow hitherto underserved students in remote communities to have access to tertiary education (Norberg et al., 2011). However, a poorly implemented BL process can result in a counterproductive outcome that will disrupt the university's academic workflow processes in the long run. Therefore, before implementing BL, institutional managers should ensure that adequate provision is allocated to support BL implemented programs. Bohle Carbonell et al. (2013) suggest that universities use top-down implementation approaches during BL implementation. The reason being that BL initiated from the top allows for top management support to be gained and thus makes it easier for resources to be provided when it comes to it.

6 Implications of Study

Accordingly, this study offers substantial findings for BL academicians, educationalists, and practitioners, by comprehensively examining the critical factors that influence institutional adoption of BL. Findings from this study provide a road map for institutions to implement BL to improve faculty's adoption of F2F and online learning. Overall, the findings empirically establish that institutional decision- making is central to successful BL adoption in universities. Given the implicit relationship between the constructs of institutional desire and institutional intention, these empirical findings can be utilized by decision-makers and educational agencies to improve BL pedagogies.

The model presented in this study is also vital to be employed in institutions of higher education as a reference tool for adopting BL initiatives in Ghana. Thus, these findings provide guidelines on the design and implementation of BL strategies. Decision makers in higher education can utilize the findings of this study to improve their understanding of the factors that influence BL adoption. It also provides understanding of the factors that impact faculty's perception towards BL adoption. Respectively, given the different perspectives of faculty, it is essential for policy makers in higher education involved in the adoption of BL to deliberate on the perspectives of all faculty members.

7 Conclusions

The present study develops a BL institutional model using the lived experiences of institutional mangers in a public university in Ghana. The model that was developed using a Grounded theory methodology to describe the processes involved in a university's transition from a face to face delivery to a BL mode. The uniqueness of the model is derived from the fact that, it is inductively developed from the lived experiences of participants from within the social context (university) in which the phenomenon (BL) was taking place.

Findings from the study suggest that the factors that inform management decision to adopt BL are influenced by two external constructs, namely, the institution's desire and the institution's intentions. Therefore, managers implementing BL must approach BL implementation with adequate knowledge that addresses the stated intention of the institutions and how they intend to roll out BL. This done, it should go a long way to address stakeholder concerns such that adoption is facilitated both from the macro and the micro levels of the institution (Charbonneau-gowdy et al., 2016).

Nonetheless, just like all other studies, this study also has limitations that are worth mentioning. First, the use of a case study methodology and in particular a single case study institution makes the study suffer from what critics called case study blight. The inherent weakness in case studies' findings has been with the inability to generalize the findings to a larger population. Therefore, it is recommended that future studies should adopt multiple case studies to develop the model into an institutional BL theory that is contextualized and accommodates the nuances of universities from developing countries. Secondly, the study is limited by the small sample of respondents pooled from a relatively small population of academic leaders. It will be of interest to adopt this study to a larger sample size where the views and lived experiences of program managers, vice-chancellors and pro-vice chancellors can be theorized, compared, and validated for model fit. Finally, the study recommends that future studies should test the model in universities in the mature or growth implementation stages for model validation.

Appendix 1

See Table 3

Table 3 Constant Comparison Analysis of Transcript Data

		Unique open codes	Memo	Axial codes 1	Memo	Axial codes 2
Factors against	1	Faculty change inflexibility	Faculty not prepared for BL	Faculty not mental ready for BL	Unwillingness	Unwilling faculty
	2	Faculty's cultural resistance				
	3	Faculty resistance to change				
	4	Unmotivated faculty				
	5	Faculty negative disposition towards technology				
	6	Faculty IT incompetence	Low faculty competence to implement	Faculty BL incompetence		
	7	Aging faculty				
	8	Inadequate financial resources	Resource insufficiency	Insufficient institutional resources		Insufficient institutional resources
	9	inadequate technical resources				
	10	Inadequate support resources				
	11	Inadequate human resources				
	12	Inadequate personnel				
	13	inadequate resourcing				
	14	Poor access connectivity				
	15	Platform complexity	This variable inhibit teaching	Teaching inhibition	BL does not fit the adopted pedagogy	Unsupportive pedagogy
	16	Learning task difficulty	These variables inhibit learning	Learning inhibitions		
	17	Affordability of learning device				

Table 3 (continued)

		Unique open codes	Memo	Axial codes 1	Memo	Axial codes 2
Factors for	18	Teaching Task compatibility	Fits teaching processes	Teaching assistance	BL fits the adopted pedagogy	Supportive pedagogy
	19	Technology-task fitness				
	20	Teaching task simplification				
	21	Pedagogy compatibility				
	22	Class management possibility				
	23	Learning task compatibility	Fits learning processes	Learning assistance		
	24	Learning task simplification				
	25	Learning process simplification				
	26	Perceived usefulness by students				
	27	Learning Device affordability	Economic situation of student			
	28	Platform potential	Platform enhancement of the pedagogy	Pedagogy assistance		
	29	Potential of BL				

Table 3 (continued)

	Unique open codes	Memo	Axial codes 1	Memo	Axial codes 2
30	Faculty readiness	Openness of faculty to new ways of teaching	Faculty mental readiness	Faculty willing to adopt BL and the institution has an existing Plan to ensure that faculty members are willing	Willing faculty
31	Enthusiastic faculty				
32	Faculty positive disposition to technology				
33	Potential Faculty acceptance				
34	Potential for capacity building	Possibility for diffusion of BL innovation in the institution	Clear Onboarding strategy		
35	Potential for change management				
36	Capacity building possibility				
37	Institutional roadmap				
38	Quality control possibility				
39	Financial resources	Resource sufficiency	Sufficient institutional resource		Sufficient institutional resource
40	Affordable technical support resources				
41	Connectivity solution				
42	Implementation feasibility		Implementation feasibility		Implementation feasibility
43	Reduced operational expenditure		Reduced operational expenditure	Potential to maximize profit	Potential financial profit
44	Economic incentive	Expansion of financial resources	Revenue possibilities		
45	Competitive advantage				
46	Environmental concerns				
47	Nature of Student evolution				
48	Necessity				

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