

Attitudes and Intentions of University Students About The Use of A Learning Management System

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Abstract

University students' attitudes and intents regarding learning management systems were examined using the self-determination theory as a framework for our investigation. We also looked at how gender and past experience with the system influenced these findings. PLS-SEM was used to assess the replies of 250 university students who were asked about their impressions of using Blackboard for self-directed learning. Our study indicated that students' intentions to utilize Blackboard were positively and significantly influenced by factors such as autonomy, relatedness, competence, and contentment; additionally, the concept of autonomy was the biggest driver. Blackboard users, on the other hand, were not influenced by their gender or previous experience. A significant contribution to our knowledge of university students' use of learning management systems is made by this research.

Keywords: Theory of self-determination; learning management system; use aim; gender; use experience

Introduction

These days, LMSs like Moodle and Blackboard are commonplace in higher education because to the rising accessibility and capabilities of technology for teaching and learning in the classroom (Li et al., 2021). According to prior studies (e.g., TAM), the long-term usage of LMSs has been analyzed (Saroia & Gao, 2019). A variety of psychological perspectives such as self-regulation, self-determination, and self-motivation regulation may explain why university students choose these LMSs for their coursework (Wong et al., 2019). These perspectives are not only linked to intrinsic motivation, but also to extrinsic satisfaction (Wong et al., 2019). (Bovermann et al., 2018). A significant part of self-determination is based on the assumption that these motivations persist in people to meet fundamental psychological needs (Jeno et al., 2019). (Jeno et al., 2019). (the sense of being connected to others). The aim of a person (i.e., whatever they do independently (i.e., acting on their own choice or pleasure or interest or values) vs inser) is appropriate, according to Zhao et al (i.e., acting based on rewards, guilt, punishment, or obligation). Using the self-determination theory (SDT), researchers are examining students' incentives for embracing new technology (Saeed Al-Marouf et al., 2020). According to (Khan and coworkers, 2018). Only a few studies have looked at how college students utilize LMSs through the prism of self-determination. Prior studies have shown that students' satisfaction with their learning management systems (LMS) correlates with how often they actually use them (Mehroliya et al., 2021). Furthermore, according to (Rather & Hollebeek, 2021), "some moderator factors, such as gender or usage experience, may have a moderating influence on attitudes and intentions to utilize educational technology, this study's main goal was to better understand university students' attitudes toward and intentions to use an LMS from a self-determination standpoint, along with students' happiness as an impact factor and any potential moderating impacts of their gender and experience. This research was conducted."

Literature review

"Self-determination theory"

An individual's actions are said to be driven solely by his or her own internal motivation and self-determination, according to self-determination theory (Jeno et al., 2019). "Autonomy, competence, and relatedness are three of the most essential psychological requirements addressed by the SDT." Having the ability to self-initiate and self-regulate one's behaviors while committing to personal preferences and beliefs is what is meant by the term "autonomy." In the context of a task, competence is defined as the desire to be productive and successful while doing so (Tsai et al., 2021). The urge to feel linked to people and establish a feeling of belonging, especially in an autonomous setting, is known as relatedness (Wang et al., 2019). In today's online and e-learning contexts, self-determination is being used (Saeed Al-Marouf et al., 2020). "In this study, we assume that students perceive that they can make their own choice when it comes to using the LMS; students also believe that they are competent enough to use the LMS; and students believe that using the LMS will help them connect with their teachers and peers." This study also assumes that students are motivated by perceived relatedness with their teachers or peers.

"Satisfaction"

There has been a high correlation between user happiness and behavioral intention for using a learning system, according to many research (Dai et al., 2020). "E-learning use is positively influenced by students' satisfaction, according to (Findik-Coskuncay et al., 2018), student satisfaction is a strong indicator of whether or not they plan to utilize a learning management system (LMS) in college." As a result, it is expected that students' happiness with their university's LMS has a favorable influence on their willingness to use it.

"Moderating effects of gender"

Gender is an important predictor of how people will use information systems, according to previous study (Hajiheydari, & Ashkani, 2018). When it comes to computer and online media usage, men outnumber women two to one (Yawson & Yamoah, 2021), "yet women are more likely than men to show a lower level of expertise with these tools" (Kapoor et al., 2021). Research have shown that gender differences have an influence on attitudes and behavioral intentions for e-learning use, according to many studies (Hajiheydari, & Ashkani, 2018). As a result of previous studies, we may infer that gender influences university students' attitudes and behavioral intentions.

"Moderating effects of experience"

It's possible that between expert and novice IT users, "experience might play a significant role in determining the relative influence of the different IT use factors (Scherer et al., 2019), it has been shown in previous research on the acceptability and use of e-learning systems that learners' intentions to use LMSs are influenced by their own experience (Cantabella et al., 2019), few research, however, have examined the moderating effect of experience on the relationship between SDT and the desire to utilize LMSs within various contexts of LMS use, because of this, the researchers in this study anticipated that the length of time students spend using e-courses would be an important factor in predicting whether or not they adopted learning management systems."

The following possibilities were investigated in light of the foregoing: "Perceived autonomy, competence, and relatedness all have a favorable effect on the user's attitude of usage; Gender (H6) or experience (H7) moderates all interactions between dimensions in the hypothesis model, with satisfaction (H4) and attitude (H5) having a positive impact on behavioral intention."

Method

"Participants"

“Students at a public university who had previously used and encountered Blackboard were selected for this research by convenience sampling.” After removing the replies from incorrect surveys, we have the responses of 303 students, leaving us with 250 participants. 49.0 percent of the students were freshmen, followed by 20.0 percent of sophomores (23 percent). Males outnumbered girls by a ratio of 130 to 120. (44 percent). Blackboard experience was divided between 130 students (47 percent) “who had fewer than three online courses using Blackboard, and 120 students (53 percent) who had more than three online courses using Blackboard (equal to and greater than to three online courses using Blackboard).”

“Measures”

Perceived autonomy, competence, and relatedness (Villalobos-Ziga & Cherubini, 2020) and satisfaction (Stupnisky & Cherubini, 2018) were constructed from previously published research into an online questionnaire with 18 questions (six constructs) (Scherer et al., 2019). “There were certain alterations and any required language changes that were verified by an educational technology specialist and validated to match the research of student behavioral intention for LMS usage in higher education in the nation. Respondents were asked to indicate their level of agreement or disapproval on a 5-point Likert scale (5 points).” The questionnaire's reliability and validity are discussed in the findings section's opening paragraph.

Results

The multi-group analysis (PLS-MGA) was utilized to estimate route analysis models and moderating effects using Smart PLS 3. (Durdyev et al., 2018).

“Measurement model”

“In order to ensure the validity of the model, it was evaluated for reliability and convergent and discriminant validity. Factor loadings, composite reliability (CR), average extracted variance (AVE), and Cronbach's values were all used to determine the validity of the model for convergence.” However, “as indicated in Table 1, all of the factor loadings were more than 0.70, except for the two items that were removed, cronbach's alpha (CR) was more than 0.70, and Cronbach's beta was larger than 0.50, while the values of AVE were greater than 0.40.” (Durdyev et al., 2018). Convergent validity and construct dependability were thus found to be satisfactory. Using (Yang et al., 2021) criteria, “all square-roots of AVE were bigger than their relevant correlation coefficients, we were able to validate the discriminant validity of the method.” Since it had appropriate convergent and discriminant validity, the measurement model was acceptable (Durdyev et al., 2018).

Table .1 “Reliability of the construct, convergent and discriminant validity of the test.”

	“Items”	“Loadings”	“AVE”	“CR”	“Cronbach’s A”	“Latent variable correlation”					
						“PA”	“PR”	“PC”	“SA”	“ATU”	“BI”
Perceived autonomy (PA)	2	.882-.904	.797	.887	.745	.893					
Perceived relatedness (PR)	4	.763-.885	.718	.911	.869	.383	.848				
Perceived competence (PC)	3	.834-.881	.732	.892	.818	.549	.357	.856			
Satisfaction (SA)	2	.873-.917	.801	.890	.753	.597	.458	.448	.895		
Attitude of use (ATU)	3	.944-.955	.898	.965	.945	.611	.444	.511	.748	.949	
Behavioral intention (BI)	3	.899-.947	.863	.950	.921	.546	.748	.443	.760	.879	.930

“Structural model”

Figure 1 “shows that the model accounted for 46 percent of the variation in students' attitudes and 80 percent of the variance in students' behavioral intentions to utilize Blackboard in the course of the study.” H1, H2, and H3 are supported by the results of this study, which found that the attitude of usage is positively affected by perceived autonomy, perceived competence, and perceived relatedness. A favorable attitude of use (= .706) and satisfaction (= .236) both substantially and positively predicted behavioral intention toward the use of the LMS, therefore validating H4 and H5 of the hypothesis.

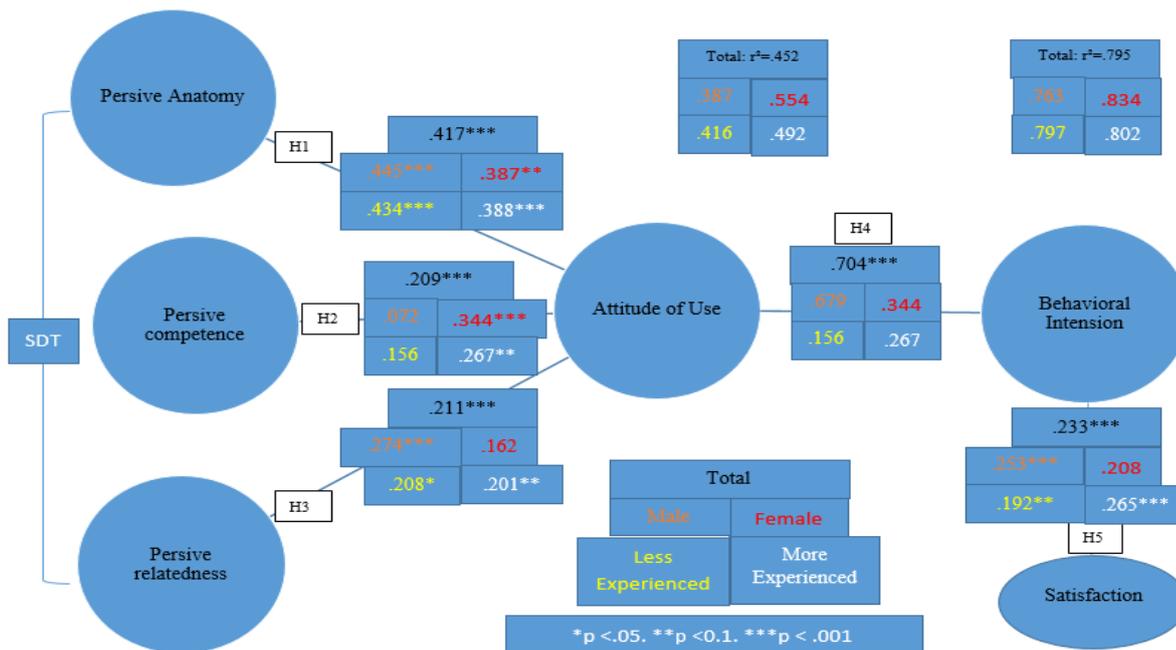


Figure 1. Findings on gender/experience in structural models and multi-group models.

“Moderation analysis”

Both men and women's opinions were shown to be most strongly influenced by their perceptions of their own autonomy, “as shown in the multi-group model analysis (see Figure 1).” Intention to use was shown to be influenced by attitude, although satisfaction was found to have no effect. For men, the model explained 77% of behavioral intention variation, “and the route coefficients for the H1, H3, and H4 linkages were all significant for the male group, with the exception of the H2 path coefficient.” Felt autonomy and perceived relatedness were also shown to have an influence on attitudes toward usage, whereas satisfaction had an impact on interactions for men. Female participants' behavioral intention was 84% explained by this model, and all three route coefficients (H1–H5) “in the model were statistically significant. For the females, H3 and H4 were not significant.”

For both groups, perceived autonomy was the most important factor in influencing attitude. “With respect to the less experienced group, the study model explained 78% of behavioral intention variation, and the route coefficients for the H1, H3, and H4 linkages were all significantly different from zero.” There were no significant route coefficients for the H2 linkages. The attitude of usage seems to be unaffected by one's perception of one's own ability. In contrast, the suggested model explained 81% of the variation in behavioral intention in the more experienced group, “and the path coefficients for the H1 to H5 linkages in the model were significant.”

(Durdyev et al., 2018) conducted the composite model measurement invariance process to make certain that a difference in estimate model group does not alter latent variable outcomes throughout the whole group. Table 2 displays the PLS-MGA findings. “Hypotheses H6 and H7 cannot be accepted, showing that gender or use experience disparities do not exist in the interactions between factors of Blackboard adoption.”

Discussion

Students' attitudes were most strongly influenced by their perceptions of their own independence, which was one of the factors researchers examined. Tsai et al., 2021, claimed that perceived autonomy is a crucial factor in influencing the behavioral intention to utilize mobile-based evaluation. This conclusion is consistent with their findings. Mobile-based assessment is more likely to be used by students who feel that learning is simpler and more valuable when pupils are given the opportunity to study on their own terms. Attitude toward LMS use is positively influenced by perceptions of competence. Students saw learning as simple because of their performance in Blackboard activities, which made them feel competent. “These findings are in line with previous research on the impact of technology adoption on autonomy and relatedness (Chavoshi & Hamidi, 2019).” Students' behavioral intentions to utilize LMS are positively influenced by their perceptions of their relationships with the LMS and their sense of belonging to it. It was easier for students to utilize Blackboard if they felt that their peers and professors were participating in the process of using the LMS, hence they were more likely to do so. Perceived relatedness with important people has been shown to influence use behavior in a research by “(Khan et al., 2018), but Jenou et al. (2019) suggest that perceived autonomy and competence are more relevant.” SDT, according to (Shah et al., 2021), is concerned with three aspects of online learning: flexibility, “computer-mediated communication and social interaction, and obstacles for acquiring technical skills.” SDT addresses these three aspects. This suggests that students' attitudes and intentions to utilize LMS were impacted by these SDT fundamental psychological demands. In addition, students' behavioral intentions were positively influenced by their level of pleasure. Student happiness is a vital determinant in the adoption of new technologies, according to our findings, “which are in line with earlier research (Alraimi et al., 2015).”

We found significant variations in the strength of the connections between these factors between men and women in our PLS-MGA. First, male students' attitudes and intentions to utilize Blackboard are influenced by their perceptions of relatedness and contentment, whereas female students are unaffected. The second finding is that opinions toward female students are affected by their perceptions of their own ability, but not those of male students. According to (Wei et al., 2021) who studied the use of computers by freshman in the country, “there was a huge confidence gender disparity in computer abilities, but the gender gap in actual computer usage was almost non-existent.” Gender differences were not found to be a moderator in any of the connections examined using this model, as shown by these findings. “Gender does not seem to be a major moderating factor in university students' use of LMS, based on these findings.” We found findings that differed from prior studies on gender disparities in the self-determination of adult learners. “But our results are in line with earlier studies showing that gender does not affect the usage and adoption of new technologies, particularly among young people (Hajiheydari, & Ashkani, 2018). (Areepattamannil & Santos, 2019), there were no statistically significant variations between male and female university students' behavioral intention to use e-learning platforms, according to (Mehta et al., 2019).” For students with greater experience, “perceived competence was shown to have a substantial influence on attitude, but not for those with a lower level of education.” A potential reason is that more experienced students may have used LMSs more often and hence had a more positive attitude regarding LMS use, leading to these outcomes. “The studies also showed that there were no significant moderating differences in the adoption of LMS across more and less experienced students, research has shown that the link between computer self-efficacy and perceptions of external control, such as perceived competence and relatedness, will stay strong when the learning system's experience is increased, even when past studies demonstrated a plausible interpretation (Yang & Wang, 2019).” There needs to be a deeper examination of this conclusion since it is at odds with the “theory that experience has a moderate influence on the relative impact of the different IT use factors.”

Conclusion

Based on self-determination theory, this research aims at understanding students' attitudes and intentions regarding utilizing LMS and exploring “the moderating impacts of students' gender and experience with LMS, students' attitudes of use and behavioral intentions are positively influenced by their perceptions of autonomy, competence, relatedness, and satisfaction.” Students' sense of autonomy was the most important factor in their decision to utilize Blackboard. But neither gender nor the amount of LMS expertise of the users had a significant influence on the results. Students' attitudes and intentions regarding utilizing LMS may be better understood by instructors and academics, as well as the general public, based on a psychological approach incorporating self-determination processes.

There are certain limitations to our research. Student attitudes and intentions for using “Blackboard may be influenced by past courses or the teaching needs of professors, which might have an impact on their level of self-direction, students' intentions to utilize Blackboard may be influenced by a little amount of gender bias, even though the male-to-female gender ratio was virtually equal in this research (54 percent of participants were males and 46 percent were women).” Survey data were obtained from students at a public institution, which might alter the sample's representativeness and the generalizability of its findings. “Our findings may not be generalizable to students in other university groups or students from various regions and countries because of the unique target population.” There may be opportunities for future research to repeat our study and examine the perspectives of university students from other nations. Because this study was conducted using Blackboard as a learning platform, care should be considered when extrapolating the findings to other LMS platforms, such as Canvas or Moodle. “A questionnaire was employed in this research, however an in-depth qualitative examination would disclose personal viewpoints and comprehensive investigations inferring the links between the hypothesized constructs.” Quantitative and qualitative methodologies may be used together to support their results in future study.

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