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Muhammad Nawaz Tunio · Angeles Sánchez ·
Yasmin Moanis Latif Hatem · Ayman M. Zakaria *Editors*

Sustainability in Creative Industries

Sustainable Entrepreneurship and Creative Innovations—Volume 1

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Muhammad Nawaz Tunio · Angeles Sánchez ·
Yasmin Moanis Latif Hatem · Ayman M. Zakaria
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A culmination of selected research papers from the International Conference on Sustainability in Creative Industries (SCI), Universitas Ciputra 2022

Springer

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Preface

The massive impact of digital technology is transforming every industry. During the last 20 years, the narrower concept of creative industries (referred to arts and cultural industries) has evolved into the idea of creative economy. Creative economy envelops a multitude of fields, such as music and artistic expression, food and gastronomy, publishing, software, advertising and design, packaging, fashion and textile manufacturing, photography and videography. The ability to create and circulate intellectual capital has the potential to generate wealth and employment and, at the same time, promoting social inclusion, cultural diversity and environmental respect. That is, the creative economy can contribute effectively to the achievement of the Sustainable Development Goals.

Considering all these reasons, the celebration of the first International Conference "Sustainability in Creative Industries", organized by IEREK, has become an ideal forum to share ideas and experiences on this topic from different countries. This book includes a selection of papers presented at that conference, after passing a review process. The studies presented in this book volume have been carried out using a great variety of methods and techniques.

The book is structured in three parts. The first part "Sustainable Entrepreneurship: Characterization, Analysis, and Impacts" consists of five chapters. Chapter "The Key Characteristics of Sustainable Entrepreneurs" is focused on the study of the personal traits and skills that shape sustainable entrepreneurs. Key characteristics of sustainable entrepreneurs are identified: altruistic, innovativeness, the ability to balance values, probity and self-compassion. Chapter "Analysis of Factors Affecting Entrepreneurial Intention Among Undergraduates" shows that perceived desirability, locus of control, self-efficacy and entrepreneurial education are factors affecting entrepreneurial intention among undergraduates from Indonesia. The study in Chapter "The Influence of Entrepreneurial Alertness on New Venture Performance with Networking Capability as a Moderator at Start-Up in Surabaya", by using Partial Least Square, finds a significant association between entrepreneurial alertness and the new venture performance, where the moderating variable networking capability acts as a predictor of moderation. Chapter "Fashionpreneur: Sustaining Traditional Batik Craft Through Entrepreneurship Activity Among Students at Universiti Malaysia Kelantan (UMK)" presents the main results of the project "Fashionpreneur" in Malaysia with the objective of tracking how many students from this project will venture into the batik business after graduating. Finally, Chapter "Mascot and Brand Sustainability in Pandemic Era: Systematic Literature Review" aims at presenting the results of a systematic literature review on the utilization of mascots for place branding from 2020 to 2022.

In both creative and non-creative industries, probably the most valued skill of a worker is their creativity. To do this, from the academic field, activities and evaluation systems must be designed to encourage students' creativity. The second part of this book, with eight chapters, focuses on "Innovative Approaches to Teaching and Pedagogy in Creative Design Education". Chapter "Explorative Learning Space for Developing Motoric Skills in the Early Childhood Stage" shares the experience of the construction of a multi-function space designated for children to support the growth and development of their motoric skills. Following the Vitruvius design principles, this design allows integrating both activities of playing and learning in one space to encourage the spirit of learning in children. Chapters "Utilizing

Virtual Reality to Support Teaching the Design Principles of the Life-Safety System" and "Virtual Personal Branding Education Workshop for GenIUS School Students Using Framework for Innovation Participatory Design Method" discuss the advantages of using virtual learning methods in architecture studios and in a private school in the context of the pandemic, respectively. Following the survey method, Chapter "The Impact of a Connectivist Learning Environment on Indonesian Design Students' Learning Experiences Through MOOC" analyzes the satisfaction of undergraduate students in Indonesia with MOOC as a methodology to foster the learning process during the COVID-19 pandemic and, more importantly, for the after-pandemic period in an increasingly digitized education context. Results show that this method is very well evaluated by the students. Dealing with a radical vision of education for sustainability, Chapter "Competences, Capabilities, and Skills in Teaching and Learning Fashion Design for Sustainability" illustrates the definition of competencies, capabilities, and acquired skills in teaching and learning fashion design for sustainability through a holistic approach based on the sustainability pillars: environment, economy, society and culture. Chapter "Project-Based Learning (PBL): Student Creativities in the Upcycling Projects" presents the results of the project-based learning focused on increasing student's creativity in project upcycling for fabric waste. Positive outcomes of the project are improvements in student creativity in the products made, originality in describing problems, and creativity in finding solutions. Chapter "Upcycling the Abandoned Students Artwork with Bateson's Type of Learning in Entrepreneurship Course" describes the results of a practical experience with artworks by students from the entrepreneurship course in a private university in West Java, Indonesia. Specifically, they reused and recycled previous assets from their colleagues or themselves and explored the possibility of making them suitable for certain targets using Gutman's Means-End theory. Finally, Chapter "Student Perception and Behavioral Changes in Blended Learning Implementation" investigates students' behavior and attitude toward blended learning by comparing first-time and second-time users.

The third and last part of this book, with five chapters, is focused on "Technological Advancements and Sustainability-Based Innovations in Creative Industries". Chapter "The Collaboration Between Academic and Industry in Creative Industry and Sustainability-Based Programs: The Academic Perspective" highlights the advantages of the collaboration between academic and creative industry in Indonesia based on sustainability programs. Chapters "Sound Visualization Based on Font Modification Using the Sound of Angklung" and "The Implementation of Deep Learning Technique in Mobile Application as a Preservation and Learning Media of Javanese Letter" show the application of technological advances such as artificial intelligence to foster the conservation of local heritages. More specifically, Chapter "Sound Visualization Based on Font Modification Using the Sound of Angklung" presents the sound visualization-based font modification, using the Sound of Angklung difficulty. In Chapter "The Implementation of Deep Learning Technique in Mobile Application as a Preservation and Learning Media of Javanese Letter", mobile application is developed using deep learning technique with VGG-16 convolutional neural network architecture, as the cutting-edge method of artificial intelligence, to recognize Javanese letter and convert it into Latin alphabet. Chapters "Web-Based Human Resource Information System Design AT PT. Cakra Mandala Sakti Surabaya", "User Experience Toward Sustainable Choice: Case Study ZALORA Indonesia" and Chapter "Web-Based Human Resource Information System Design AT PT. Cakra Mandala Sakti Surabaya" conduct case studies of creative innovations that foster economic sustainability. Chapter "Web-Based Human Resource Information System Design AT PT. Cakra Mandala Sakti Surabaya" presents a Web-based human resource information system to optimize the operational management process. Chapter "User Experience Toward Sustainable Choice: Case Study ZALORA Indonesia" explains a technique of automotive modelmaking that uses waste wood. Finally, Chapter "User Experience Toward Sustainable Choice: Case Study ZALORA Indonesia" aims at studying the intervention needed on the user experience aspect that could encourage more conscious shopping through the Zalora Earth Edit platform.

Granada, Spain Angeles Sánchez

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Student Perception and Behavioral Changes in Blended Learning Implementation

Rezart Prifti and Ana Shkreta

Abstract

In this paper, we investigate students' behavior and attitude toward blended learning by comparing first-time and second-time users. A sample of 202 first-time users and 60 experienced users has been analyzed. As derived from the data analysis, there are significant differences on students' perceptions and attitudes toward blended learning usage when comparing novice and experienced users. Moreover, we identify that the three external variables multimedia instruction, content quality, and learning management system (LMS) self-efficacy have a positive effect on perceived usefulness and ease of use for the first-time users, meanwhile for experienced users, perceived usefulness is affected only by content quality and LMS self-efficacy, and content quality and multimedia instructions affect ease of use.

Keywords

Blended learning · Perceived usefulness · Perceived ease to use · Behavior intention · TAM model

1 Introduction

Blended learning has become increasingly important, as a methodology that breaks down traditional walls of teaching and provides high-quality learning experiences (Boelens et al., 2018; Broadbent, 2017; Hameed et al., 2008; Moskal et al., 2013; Oh & Park, 2009). Many authors have considered it as "the new normal" of the teaching process (Dziuban et al., 2018; Norberg et al., 2011; Ross & Gage, 2006). Technological improvements, widespread integration of IT infrastructure, new approaches toward digital skills, and internet usage have changed learning and teaching styles rapidly (Cahya et al., 2018; Sethy, 2008). Azizan (2010) argues that technology usage in classroom enhances students' competences and confidence and improves learning quality, given that it can offer extra learning resources. The term "blended learning" represents a wide spectrum of delivery options, tools, and pedagogies but conceptually refers to distance education that emphasizes flexibility of time, place, and pace of student learning. Staker and Horn (2012) define blended learning as "*any time a student learns at least in part at a supervised brick-and-mortar location away from home and at least in part through online delivery with some element of student control over time, place, path, and/or pace.*" Despite its importance and substantial growth, this approach has gained in recent years, and education institutions still face a number of challenges in relation to blended learning methodology. The literature shows that the challenge education institutions face mostly is users' acceptance and delivery of learning materials (Lee & Hung, 2015; Park, 2009). Interactivity in online platforms, quality of learning material, and interaction among students and teachers are also claimed as challenges (Gómez-Rey et al., 2016; Kearsley, 2000; Kent et al., 2016; Lear et al., 2010; Zain et al., 2016). Hence, while designing an effective online learning environment, there are two critical dimensions to be considered, instructor and student characteristics (Campbell, 2006; Liaw, 2004; Mbengo, 2014). Understanding their perceptions and attitude toward such a methodology helps institutions understand how to use the approach appropriately. Precisely to study these interactions in this research paper, we have used the technology acceptance model (TAM) developed by Davis et al. (1989) and later adopted by many authors to investigate factors that influence the usage and adoption of blended learning (Padilla-meléndez et al., 2013; Pituch & Lee, 2006; Tselios et al., 2011). This model is

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used to understand factors that influence usage and adoption of blended learning in university premises. The model has been supported in the literature by numerous theoretical and empirical studies (Hsu & Chang, 2013; Martín-García et al., 2019; Wong et al., 2017). This model analyzes and describes how users accept and use a particular technology taking into account such factors as: system characteristics, perceived usefulness, perceived ease of use, and attitudes toward using technology. Through this research study, we analyze how external factors like multimedia instructions, content quality, and learning management system self-efficacy affect perceived usefulness and ease of use. In addition, we investigate whether their perception toward usefulness and easiness of the online learning platform affect their intention and actual use. Moreover, we find relevant the differences in vantage points related with perception and attitudes between new and experienced time users. The contribution we aim to make in this paper is to investigate the underlying factors that influence adoption and usage of blended learning approach, and, in specific, we investigate how student's perceived usefulness and ease of use affect their behavior intention toward blended learning and the overall use of this methodology. Through this analysis, we aim also to compare how these factors change between new users and experienced users.

Behavioral intention influences a number of important factors that determine the effectiveness of blended learning methodology; it is one of the key determinants of technology incorporation in the classroom (Fishbein & Ajzen, 1980), which is influenced by such factors as, self-efficiency and motivation (Liaw & Huang, 2011; Thai et al., 2017), compatibility, complexity, observability, relative advantages, Lee et al. (2011), ease of use and usefulness (Yi & Hwang, 2003). Students' behavioral intention to use e-learning is also influenced by perceived satisfaction and perceived usefulness from the LMS that directly affect the last one (Damnjanovic et al., 2015). For the purpose of this paper, perceived usefulness and ease of use are defined according to Davis et al. (1989), who describes perceived usefulness as the level in which students believe that using blended learning approach will enhance their final results and perceived ease of use as the level in which students believe that using blended learning approach will facilitate their learning process. The structure of this paper is organized as follows: The next section describes the methodology used to analyze gathered data, followed by their analysis and lastly research questions. After data analysis, we conclude with main results.

2 Methods

This study was carried out in university premises, with business administration students at the first and third year of their studies. The sample consists of 262 business administration, bachelor-level students, from which 202 are new users and 60 are experienced users. The online course is offered as supplementary of face-to-face learning. Students were asked to attend the online learning once a week to find additional learning information, video explainers, illustrations, assignments, and quizzes. The online curricula were adapted as complementary of in-class learning following instructional design principles (Ghirardini, 2011) in that way to create an appropriate blended learning environment. Students have been part of this methodology at the first year of their studies and at the third year of their studies. The learning methodology has not changed, only subjects.

The aim is to understand whether there are differences in their behavior and how these change with time. How do student priorities change while using blended learning through an online platform? Are their behavioral intentions affected the same way and by the same factors as first-time and experienced users? Are usefulness and ease of use affecting the same way first-time and experienced users? While students gain experience, do they favor multimedia instructions over content quality over LMS self-efficacy, or the other way around?

Students attended a full-fledged blended learning course for one semester, and afterward, a five-scale Likert questionnaire was distributed online. The questionnaire was designed based on the work of Liaw (2008), Liaw and Huang (2013), and Cigdem and Ozturk (2016a).

As external factors, Lau and Woods (2009b) used multimedia instructions, content quality, and learning management system self-efficacy to understand how students' perceived usefulness and ease to use of the platform is affected. System quality and content quality are considered as important factors that influence learners' usage and satisfaction (Dorobat, 2014). Pedagogical and technical aspects constitute the infrastructure and quality of the learning process (Ouadoud et al., 2018), and the content provided in the online platform make it eligible or not to learners (Vonderwell & Zachariah, 2005). Studies have shown that the easier the usage of the platform and the general impression it creates, the greater the acceptability (Aristovnik et al., 2016). Referring to the TAM Fig. 1 model and supported the literature, the following research questions were raised:

1. Can multimedia instruction, content quality, and LMS self-efficacy impact perceived usefulness?
2. Can multimedia instruction, content quality, and LMS self-efficacy impact perceived ease of use?
3. Can perceived usefulness and perceived ease of use impact behavior intention to use blended learning approach?
4. Can behavior intention to use blended learning impact actual use of the online platform?

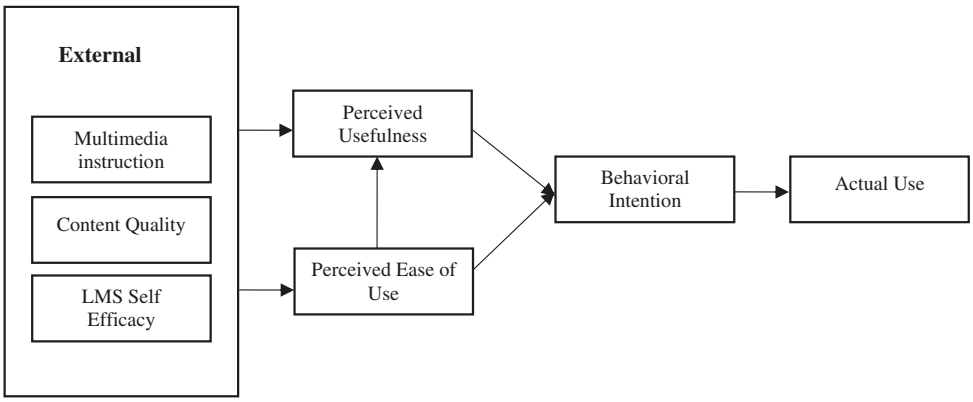

Fig. 1 Theoretical framework derived by technology acceptance model developed by Davis et al. (1989)

3 Data Collection and Analysis

The data for the study were collected during the first semester of the first year of studies and the second semester of the third year of studies of undergraduate course. During the semesters, the participants attended the blended learning for 15 weeks, 2 h per week. At the end of the semester, an online questionnaire has been distributed to them, asking for their perception and attitude toward their experience with the blended learning methodology.

The data were collected by the questionnaire composed by seven constructs representing multimedia instructions, quality of learning materials, LMS self-efficacy, perceived usefulness and ease to use, behavior intention to use blended learning approach, and actual use of the learning management system (Cigdem & Ozturk, 2016a; Liaw, 2008; Liaw & Huang, 2013). All items are presented in Table 1.

We have computed Cronbach's alpha to determine the internal consistency of each construct and investigate whether the items used formed a reliable scale. Cronbach's alphas for each construct regarding the "new user" model and the "experienced user" model are very reliable and within statistical measurement standards, revealing reasonable levels of reliability Table 2.

To be able to generalize the sample, we have analyzed data through inferential statistics, given that we use a random sample of data taken from a population. Furthermore, Pearson correlation coefficients and linear regression analyses were carried out to investigate relationships and correlations between constructs within the research design. The same analyses has been performed for the two models in the way to examine construct validity. Table 3 presents Pearson correlations among factors with a p value of less than 0.01 in order to control the Type 1 error across the correlations.

As shown in Table 3, all correlations were all less than 0.80 and there was no evidence of correlation ($rxy > 0.90$) among predictors, and for this reason, it is assumed there is no multicollinearity problem among predictor variables of the regression analyses. It seems that all the seven factors were significantly correlated with each other. The strongest correlation is between LMS self-efficiency and perceived usefulness (0.601), LMS self-efficiency and perceived ease of use (0.552), content quality and perceived usefulness (0.546), and the lowest correlation is between LMS self-efficiency and actual use.

In "experienced user" model, some correlations have changed as referred to Table 4. There is a negative correlation between multimedia instruction and actual use, and this correlation has been weak in "new user" model; the relation between these two factors has been analyzed by many authors that argue the positive impact of multimedia instructions on the intention to use the LMS (Al-Busaidi, 2012; Cigdem & Ozturk, 2016b). There are also authors that suggest other external factors that influence the actual use such as subjective norms and system accessibility (Al-Emran et al., 2020; Moritani et al., 2001). From the analysis, we realize that there is a strong correlation between content quality and perceived usefulness as (Rittgen, 2010; Willemsen et al., 2011) found. Still the strongest correlation is between perceived usefulness and behavior intention, relation that has been investigated and supported by other studies (Abioye & Adelakun-Odewale, 2017; Ong et al., 2004).

In order to investigate the hypothesis raised in this research paper, a linear regression analysis is conducted to identify unstandardized and standardized coefficients. As for the first research question to understand whether perceived usefulness could be predicted by multimedia instruction, content quality, and LMS self-efficacy, the regression analysis indicates as follows:

As results shown in Table 5, for new users, multimedia instructions, content quality of learning material in the online platform, and LMS self-efficiency positively influenced the scores regarding perceived usefulness on online learning (Lau & Woods, 2009a; Tutty & Martin, 2008; Wu et al., 2010). For experienced users, as shown in Table 5, content quality and LMS self-efficiency seem to have a positive effect on scores related to perceived usefulness (Landrum, 2020; Palmer & Holt, 2010a).

Table 1 Distribution of survey items to factor structure

Factor	Item	New users		Experienced user	
		Mean	SD	Mean	SD
Multimedia instruction		**4**	**1.06**	**4.49**	**0.72**
UM1	I like to use video media instructions in the LMS	3.76	1.10	4.35	0.68
UM2	I like to use multimedia instruction in the LMS	3.74	1.05	4.45	0.70
UM3	I like to use presentations/slides in the LMS	4.53	0.80	4.68	0.75
Content quality		**4.1**	**1.08**	**4.47**	**0.69**
SO21	Online lessons were interesting and engaging	4.11	0.99	4.63	0.55
SO22	Online lessons were divided into manageable segments	4.19	0.96	4.50	0.65
SO23	Online lessons contained the right number of visualizations, animations, and/or charts	3.94	1.23	4.33	0.77
SO24	Online lessons contained the right amount of text	4.08	1.12	4.43	0.74
LMS self-efficacy		**4.36**	**0.86**	**4.66**	**0.61**
LM1	I feel confident using the LMS	4.34	0.92	4.62	0.74
LM2	I feel confident operating functions of the LMS	4.21	0.86	4.67	0.57
LM3	I feel confident using content of the LMS	4.54	0.79	4.72	0.52
Perceived usefulness		**4.12**	**0.98**	**4.47**	**0.7**
DM1	Using the LMS gives me greater control over my work	3.95	0.95	4.30	0.77
DM2	Using the LMS improves my performance	3.97	1.06	4.35	0.73
DM3	Using the LMS makes it easier to do my job	4.15	0.95	4.53	0.68
DM4	I believe the LMS content is useful	4.41	0.87	4.68	0.57
Perceived ease of use		**4.24**	**0.97**	**4.56**	**0.72**
LP1	Learning to operate the LMS system would be easy for me	4.17	1.01	4.58	0.70
LP2	I would find it easy to get the LMS to do what I want it to do	4.27	0.94	4.55	0.72
LP3	I would find the system easy to use	4.29	0.97	4.53	0.75
Behavior intention		**4.14**	**0.99**	**4.47**	**0.78**
SP1	I intend to use the LMS to assist my learning	4.28	0.92	4.65	0.52
SP2	I intend to use functions of the LMS to assist my learning	4.21	0.95	4.52	0.62
SP3	I intend to use the LMS as an autonomous learning tool	3.89	1.00	4.20	0.95
SP4	I would like to see the LMS functions implemented further in departmental modules	4.20	1.06	4.52	0.91
Actual use		**3.69**	**1.13**	**4.1**	**0.99**
SO1	How many of the online lessons did you complete?	4.34	0.91	4.73	0.52
LD1	How many of the background readings did you complete?	3.24	1.04	3.58	0.93
LD2	How many of the readings for in-class discussion did you complete?	3.50	1.13	3.95	1.10

SD = standard deviation of the mean

Regarding to the second research question whether multimedia instruction, content quality, and LMS self-efficacy affect perceived ease of use, only LMS self-efficacy exerted positively significant effects on the scores pertaining to perceived ease of use for the new users and multimedia instruction and content quality to have a positive effect on

Table 2 Results of reliability analyses

Subscale	Items	New user	Experienced user
		Cronbach's alpha	Cronbach's alpha
Multimedia instruction	3	0.77	0.70
Content quality	4	0.84	0.77
LMS self-efficacy	3	0.84	0.73
Perceived usefulness	4	0.85	0.81
Perceived ease of use	3	0.92	0.90
Behavior intention	4	0.80	0.72
Actual use	3	0.59	0.54
Total	**24**	**0.83**	**0.79**

the perceived ease of use variable for the experienced users (Davis, 1989; Park et al., 2019) as shown in Table 6.

The third research question analyses whether perceived usefulness and perceived ease of use play a positive effect on students' behavior intention (Baki et al., 2018; Lee & Hung, 2015; Park, 2009). For both novice and experienced users, perceived usefulness and perceived ease of use seemed to have a significant effect on behavior intention to use the online platform as results shown in Table 7.

The last research question investigates whether behavior intention to use online platform predicts the actual use (Yi & Hwang, 2003). Analysis shows that behavior intention of new users has served as predictor of the actual use, and

Table 3 Pearson correlations among the factors of "new users" model

Factors	1	2	3	4	5	6	7
1. Multimedia instructions		0.362**	0.429**	0.416**	0.256**	0.471**	0.250**
2. Content quality			0.485**	0.546**	0.374**	0.490**	0.238**
3. LMS self-efficacy				0.601**	0.552**	0.537**	0.185**
4. Perceived usefulness					0.541**	0.748**	0.287**
5. Perceived ease of use						0.539**	0.209**
6. Behavioral intention							0.230**
7. Actual use							

Note **Correlation is significant at the 0.01 level (two-tailed)

Table 4 Pearson correlations among the factors of "experienced user" model

Factors	1	2	3	4	5	6	7
1. Multimedia instruction		0.435**	0.278*	0.332**	0.376**	0.441**	− 0.015
2. Content quality			0.324*	0.673**	0.405**	0.588**	0.042
3. LMS self-efficacy				0.460**	0.295*	0.445**	0.268*
4. Perceived usefulness					0.478**	0.831**	0.067
5. Perceived ease of use						0.535**	− 0.122
6. Behavioral intention							0.045
7. Actual use							

Note *Correlation is significant at the 0.01 level (two-tailed)

Table 5 Multimedia instruction, content quality, and LMS self-efficacy as predictors of perceived usefulness

	Variables	*B*	Std. error	Beta	*t*	Sig
New users	Multimedia instruction	0.175	0.076	0.137	2.317	0.022
	Content quality	0.274	0.055	0.305	5.014	0.000
	LMS self-efficacy	0.564	0.090	0.394	6.268	0.000
Experienced users	Multimedia instruction	0.003	0.135	0.002	0.021	0.983
	Content quality	0.613	0.111	0.584	5.512	0.000
	LMS self-efficacy	0.398	0.146	0.271	2.726	0.009

Table 6 Multimedia instruction, content quality, and LMS self-efficacy as predictors of perceived ease of use

	Variables	*B*	Std. error	Beta	*t*	Sig
New users	Multimedia instruction	− 0.003	0.072	− 0.002	−0.038	0.970
	Content quality	0.106	0.052	0.139	2.032	0.043
	LMS self-efficacy	0.589	0.086	0.486	6.,888	0.000
Experienced users	Multimedia instruction	0.260	0.154	0.222	1.683	0.098
	Content quality	0.246	0.127	0.260	1.945	0.057
	LMS self-efficacy	0.199	0.166	0.149	1.193	0.238

Table 7 Perceived usefulness and perceived ease of use as predictors of behavior intention

	Variables	*B*	Std. error	Beta	*t*	Sig
New users	Perceived usefulness	0.627	0.053	0.645	11.881	0.000
	Perceived ease	0.218	0.062	0.190	3.499	0.001
Experienced Users	Perceived usefulness	0.744	0.080	0.745	9.253	0.000
	Perceived ease	0.198	0.089	0.179	2.223	0.030

Table 8 Behavior intention as predictors of actual use

	Variables	*B*	Std. error	Beta	*t*	Sig
New users	Behavior intention	0.171	0.051	0.230	3.347	0.001
Experienced users	Behavior intention	0.039	0.113	0.045	0.343	0.733

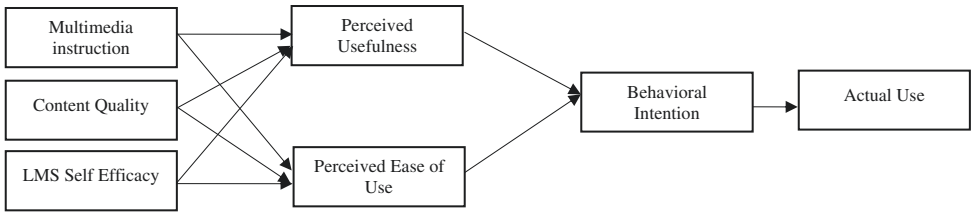

Fig. 2 Derived model new users

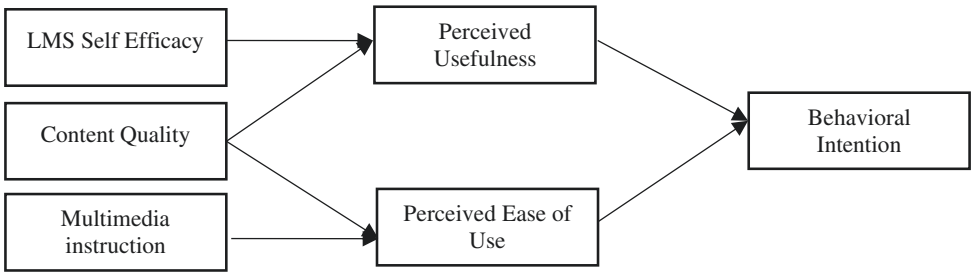

Fig. 3 Derived model experienced users

the quite opposite has happened for experienced time users (Yeop et al., 2019). Results in Table 8, are shown in detail.

On the basis of findings resulting from this analysis, an explanatory model for each user level was obtained. Arrows in Figs. 2 and 3 explain the direct influence among constructs. The three external variables multimedia instruction, content quality, and LMS self-efficacy seem to have a positive effect on perceived usefulness for new users, *indicating that an online platform that uses multimedia instruction seems to be more useful for new users*. Meanwhile, *for experienced users, perceived usefulness is affected only by content quality and LMS self-efficacy*; therefore, multimedia instructions do not play an important variable for them in using the online platform, and this result is also supported by correlation analysis that indicate that multimedia instruction and actual use have a negative correlation between them and it may come by the fact that once students are familiar with the online platform more they care for the quality of the learning materials and the efficacy of the learning management system. Related to the perceived ease of use for the new users, variables that matter most are related to the content quality and LMS self-efficacy, and the

quality of online learning materials has been evaluated as the most important factor that influence both perceived usefulness and ease of use for the new and experienced users.

An important point was about behavioral intention that both perceived usefulness and ease of use for new and experienced users have a positive effect on that. Accordantly, when users believe that a system is useful and easy to use, they are more likely to use this platform only for learning purposes. This is consistent with the point proposed by Ong et al. (2004), Park (2009), Revythi and Tselios (2019), Yi and Hwang (2003), yet inconsistent with Cigdem and Topcu (2015) and Liaw (2008) that argues that only perceived usefulness affects behavior intention of the users. *A relevant result of this study is the difference that exists between new and experienced users related to the intention to use the online platform. Based on our analysis, it seems that for new users, the intention to use the e-learning platform is related to behavior intention to use the platform. Quite opposite happens with experienced users, and their behavior intention to use the platform does not have any impact on the actual use.*

The last interpretation is related with differences that exist between new and experienced users. What both have in common is the importance that users pay to the quality of learning materials. If we compare the means of all constructs, it seems to have an improvement on the evaluation of all the variables from new to experienced users. The main difference is between their perception related to the usefulness of the online learning platform and its easiness. For the new users, usefulness is related to the instructions that instructors give in the online platform, while for the experienced users it depends by the effectiveness of the learning management system. Further, with regard to perceived easiness for new users, LMS self-efficacy is the important determinant that has considerable impact on the variable, and for experienced users, multimedia instructions help them to perceive the easiness of the online learning platform.

4 Discussion

Our results show that new users' perception toward usefulness and easiness of the online learning platform affects their behavior intention and actual use of this approach. First-time users tend to utilize in a short amount of time; thus, they initially look for ease of use while getting the narrow objective done. On the contrary, experienced users' perception toward usefulness and easiness of the online learning platform affects their behavior intention to use this approach but do not affect the actual use. The science behind it tells us that the experienced user uses the instrument to get to the objective; however, its intention changes based on the content and many elements of the learning instrument.

Whether there are any differences in perception and attitudes between new users and experienced users results show that the first ones evaluate more LMS self-efficiency and ease of use. For them, LMS self-efficiency plays an important role in perceived ease of use of the platform (Aman et al., 2020). As new users, taking in consideration latest generation focus to technology and focus time span, it is arguably intuitive to follow for the self-efficacy of the learning instrument that derives from its ease of use. Quite the opposite is for experienced users; for them, content quality and multimedia instruction play an important role on perceived ease of use of the platform (Landrum, 2020; Palmer & Holt, 2010a, 2010b). This might be a result of lack of context from new users with the online platform. However, experienced users since not having the initial contextual lack of knowledge observe that in such learning environments, the two main elements that fulfill their objectives are content quality and multimedia. Research shows that these two are fundamental in the online learning environment and the findings of the study confirm it.

The similarity between new and experienced users is that both perceived usefulness and ease to use affect student's behavior intention. Thus, the more usefulness and the easier the platform and methodology stands for users, the more propensity they have to use the methodology, even when external factors that affect student's perception and attitudes of new and experienced users are different. We consider it to be of considerable interest to investigate which external factors directly influence new and experienced users' perceived usefulness and ease of use toward blended learning methodology.

5 Limitation and Future Directions

Drawing conclusions, we must consider the following limitations to this study. Students needed more explaining regarding blended learning as the notion is new for them. However, the most important limitation related with methodology and overall implications on the study is the fact that the sample of new and experienced users is not equal and also the sample size is small, thus making the recommendations cautious.

6 Conclusions

This study addressed increasingly important issues of students' perception and behavioral changes in blended learning environment. It tries to analyze student' perception and attitudes toward learning methodology but also tracking

their previous experience with blended learning approach and learning management systems. Arguably, these findings will help to make more effective decisions about how to implement the right blended learning methodology. The results reported are as follows:

- Findings indicate that there are significant differences between new and experienced users on what they evaluate as important when using learning management systems. In addition, new users in terms of usefulness evaluate more content quality, multimedia instructions, and LMS self-efficiency, and on the other hand, experienced users do not find relevance in multimedia instructions.
- In terms of easiness of the online learning platform, new users evaluate as important determinant only LMS self-efficiency.
- Repetitively, we find that multimedia instruction and content quality are determinants that affect the ease of use only in case of experienced users. Behavior intention of both, new and experienced users, is affected by perceived usefulness and perceived ease of use.
- There are various differences and similarities between new and experienced users on perception and behavior toward blended learning methodology that instructors need to understand to be able to create an appropriate and effective learning environment.

Conflict of Interest StatementThe authors have no conflicts of interest to declare.All co-authors have seen and agree with the contents of the manuscript, and there is no financial interest to report.

We certify that the submission is original work and is not under review at any other publication.

Ethical StatementWe hereby, Rezart Prifti and Ana Shkreta, consciously assure that for the manuscript "Student Perception and Behavioral Changes in Blended Learning Implementation," the following is fulfilled:

1. This material is the authors' own original work, which has not been previously published elsewhere.
2. The paper is not currently being considered for publication elsewhere.
3. The paper reflects the authors' own research and analysis in a truthful and complete manner.
4. The paper properly credits the meaningful contributions of co-authors and co-researchers.
5. The results are appropriately placed in the context of prior ad existing research.
6. All sources used are properly disclosed (correct citation). Literally copying of text must be indicated as such by using quotation marks and giving proper reference.
7. All authors have been personally and actively involved in substantial work leading to the paper and will take public responsibility for its content.

The violation of the Ethical Statement rules may result in severe consequences.

We agree with the above statements and declare that this submission follows the policies of Springer as outlined in the Guide for Authors and in the Ethical Statement.

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Technological Advancements and Sustainability-Based Innovations in Creative Industries