 doi:10.20944/preprints202107.0583.v1

Article

Constructs Influencing Students' Behavioral Intention of Superstar Learning System

Zhonggen Yu [1,2]

[1] Department of English Studies, Faculty of Foreign Studies, Beijing Language and Culture University; 401373742@qq.com
[2] *Correspondence: 401373742@qq.com; Tel.: 0086-18951801880

Abstract: Superstar Learning System is an interactive information platform, where teachers and students can not only have an easy access to various learning resources, but also interact in the whole teaching and learning process. Although there have been a large number of studies devoted to the use of Superstar Learning System in education, very few of them explored its behavioral intention. In order to deal with this missing link in literature, we adopt a random sampling technique and a questionnaire survey to collect data. This study concludes that performance expectancy, effort expectancy, lecturer influence, peer influence, user innovativeness, interface simplicity, and multiple functions exert a positive influence on behavioral intention to use Superstar Learning System. We form a fit extended technology acceptance model (TAM) by including innovative constructs, i.e. lecturer and peer influences, user innovativeness, interface simplicity, and multiple functions. Interdisciplinary research is needed to explore an extended TAM to use Superstar Learning System in the future.

Keywords: Superstar Learning System; Behavioral Intention; An extended TAM; Constructs

1. Introduction

1.1. Origin of the Technology Acceptance Model

The Technology Acceptance Model (TAM) was proposed by Davis (1989), who adopted rational behavior theory to study users' acceptance of information systems. The original purpose of TAM was to explain the influencing constructs of computer technology acceptance. TAM proposes two major influencing constructs: perceived usefulness, which indicates the extent to which a user thinks that using a technology system improves the performance; and perceived ease of use, which means the degree to which a user thinks it is easy to use a technology system.

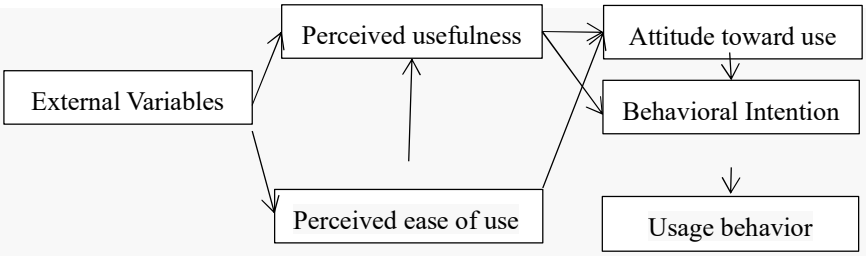

Figure 1. The technology acceptance model (Davis et al., 1989)

The Technology Acceptance Model (see Figure 1) considers that the use of technology is determined by behavioral intention, while behavioral intention is determined by the attitude toward the use and perceived usefulness. Perceived usefulness is determined by perceived ease of use and external variables. Perceived ease of use is determined by

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external variables. External variables include technology design characteristics, user characteristics (including perception forms and other personalities), task characteristics, nature of development or execution process, policy impact, and organizational structure, etc. They establish a connection between internal beliefs, attitudes, intentions, and differences among different individuals, environmental constraints, and controllable interference factors in the technology acceptance model.

1.2 Development of TAM

TAM of Knowledge Management System. An increasing number of organizations realize that organizational competitiveness depends on the effective management of intellectual resources, which makes knowledge management a very important organizational function (Davenport & Grover, 2001). Knowledge management includes a wide range of complex organizational, social and behavioral constructs. Nevertheless, information technology is still a major factor in the current study of knowledge management. Based on the fact that knowledge management is supported by information-related technologies, the acceptance of knowledge management system is studied by using TAM. This model mainly measures several main constructs of the technology acceptance model: perceived usefulness, ease of use, and user's intention to use knowledge management system, as well as their relationship with actual use.

Compared with Davis' original technology acceptance model, this research model did not consider the construct of attitudes to use, while Davis (1989) argued that attitudes to use partially mediated the effect of perceived usefulness on behavioral intention to use. External variables not involved, this research model does not include constructs that influence perceived usefulness and perceived ease of use.

TAM of Enterprise Resource Planning (ERP) application system. ERP is a system capable of handling multiple functions including finance, human resources, manufacturing, material management, sales, and distribution (Davenport, 2000). The implementation of ERP requires a lot of organizational resources and risks brought by a lot of investment. Compared with the implementation of a traditional simple information technology system, it is a completely different application area of information technology.

In this research model, two constructs were included that influenced TAM, i.e. perceived usefulness and perceived ease of use (Lewis & Seibold, 1993). The model includes the main constructs of TAM and defines three external variables: the plan exchange of ERP system, the consensus of benefits generated by ERP system, and the training of ERP system (Legris, Ingham, & Collerette, 2003). In the organization, the users who would most likely accept the ERP system were the senior managers. The plan exchange of the ERP system made the information about the ERP system flow from the senior managers to others (Caner, Jambulingham, & Gupta, et al., 2001). The consensus on the benefits of the ERP system (Mirani & Lederer, 1998) refers to the consensus among peers and managers on the value of the ERP system. The training of the ERP system (Potosky, 2002) includes internal and external training.

TAM of the Internet Application. Many enterprises used the Internet, especially to share important information resources (Feher & Towell, 1997). The development of Internet-based systems and the establishment of intra-enterprise Internet can help break down the barriers of time and distance between suppliers and demanders in order to reduce costs and increase productivity. Enterprises use the Internet mainly to collect information, but how to obtain the expected information is a major concern (Soh, Mah, & Gan et al., 1997). Collecting task-related information has become a major aspect of using the Internet. More importantly, the performance of information processing was increasingly dependent on the matching degree between information and organizational tasks.

In this research model, TAM is used to evaluate individual performance. The assessment of the Internet use in daily work is mainly based on personal impressions of using task-related websites and Intranets. In order to empirically study the use of task-related Internet by staff, TAM and Choo's (1998) information behavior model are synthetically used. The information behavior model mainly explains how people reduce the uncertainty of tasks through the information demand-search-use cycle.

Based on the three-step cycle of information behavior model, the use of the Internet in work was explored from three aspects. In the aspect of information demand, users assessed whether the relevant information can solve the problem, and proposed related factors (Spink, Greisdof, & Bateman, 1998). In the information search stage, perceived usefulness, ease of use, and a personal factor-the state of imagination were proposed.

Revised TAMs. A more reliable TAM, i.e. the unified theory of acceptance and the use of technology (UTAUT) was formulated by Venkatesh et al. (2003), who aimed to integrate and analyze constructs in the TAM. In UTAUT there are three influencing constructs that determine behavioral intention, i.e. performance expectancy, effort expectancy, and social influence. One influencing construct, facilitating condition, is considered able to directly determine use behavior of mobile technology. This enhances the reliability of the acceptance model by extending the basic TAM. Characteristics of users, such as gender, age, experience, and voluntariness of use are deemed as significant moderating variables influencing behavioral intention and use behavior. It has been argued (Venkatesh et al., 2003) that UTAUT is significantly more reliable than the basic TAM in that the former is able to account for 70% of variances in the behavioral intention. Therefore, UTAUT provides a reliable model to test the usability of a novel mobile app (Ibrahim & Jaafar, 2011).

Later, many studies revised the basic TAM (e.g. Lee & Lehto, 2013; Teo, 2009) by arguing that more external variables should be added to TAM (Abdullah & Ward, 2016; Legris, Ingham, & Collerette, 2003). Afterward, numerous scholars extended the basic TAM by adding different external variables such as experience (Yang & Wang, 2019), students' self-determination and satisfaction (Joo, So, & Kim, 2018), prior experience, and gender difference (Park, Kim, Cho, & Han, 2019), attitude and performance expectancy

(Hoi, 2020), perceived reliability (Alam, Hoque, Hu, & Barua, 2020), psychological constructs (Yu, 2020), and social influence (Chimborazo-Azogue et al., 2021). A recent study concludes that subjective norms, perceived ease of use, and perceived usefulness could significantly influence the attitude towards use (Alshurafat et al., 2021).

1.3 Superstar Learning System

Superstar Learning System is an interactive information platform. Through this platform, teachers and students can not only have an easy access to various learning resources, interact in the whole teaching and learning process, but also retrieve relevant data and obtain timely feedback from either teachers or peers (Figure 2).

Figure 2. The Superstar Learning System Platform

Numerous studies have been committed to the effectiveness of Superstar Learning System in various subjects. Superstar Learning System has been demonstrated effective to improve Higher Vocational Mathematics teaching (Zhu, 2019), promote Physical Chemistry learning (Wang, Zhang, & Qian et al., 2018), facilitate the teaching of Business English Intensive Reading (Fan, 2017), and enhance English Reading teaching on the basis of a mobile model aided with Superstar Learning System (Zhang, 2016).

By integrating and utilizing the interactive function of Superstar Learning System, Wang (2018) constructs a hybrid teaching mode of Comprehensive English courses based on Superstar Learning System from four aspects: online self-learning, classroom teaching, network interaction, and teaching evaluation, and puts forward a complete teaching model. The teaching practice shows that this model combines the advantages of mobile teaching and traditional classroom teaching, which can not only improve the teaching quality of Integrated English courses, promote students' learning autonomy, but also meet the talent training objectives in the artificial intelligence era.

1.4 Constructs influencing behavioral intention

Although there have been a large number of studies devoted to the use of Superstar Learning System in education, very few of them explored its TAM. In order to deal with

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this missing link in literature, we intend to use UTAUT to test the usability of Superstar Learning System. Based on the basic TAM, usability is considered an important construct to influence behavioral intention. Multiple functions can be considered an in-depth usability for students and teachers to use a mobile app. Perceived ease of use is also an important determinant influencing behavioral intention, of which Interface simplicity of the mobile app is an essential component.

Lecturer influence and peer influence source from the important determinant -- social influence, referring to the extent to which users take it important that superiors and inferiors believe that they should use the mobile technology (Venkatesh et al., 2003). Social influence, which could be divided into superior and peer influences (Igbaria, Schiffma, & Wieckowski, 1994), has been considered an important determinant directly influencing behavioral intention of the use of mobile technology (Venkatesh & Davis, 2000).

User innovativeness, another important determinant influencing behavioral intention, indicates the individual voluntariness to accept a new mobile technology. Strong user innovativeness could exert a positive influence on performance expectancy and effort expectancy at an initial stage (Liu et al., 2010).

1.5 Research questions and hypotheses

Therefore, we raised the research question: will performance expectancy, effort expectancy, lecturer influence, peer influence, user innovativeness, interface simplicity, and multiple functions exert a positive influence on behavioral intention to use Superstar Learning System?

We thus raised seven null research hypotheses as follows:

H1. Performance expectancy exerts no positive influence on behavioral intention to use Superstar Learning System.

H2. Effort expectancy exerts no positive influence on behavioral intention to use Superstar Learning System.

H3. Lecturer influence exerts no positive influence on behavioral intention to use Superstar Learning System.

H4. Peer influence exerts no positive influence on behavioral intention to use Superstar Learning System.

H5. User innovativeness exerts no positive influence on behavioral intention to use Superstar Learning System.

H6. Interface simplicity exerts no positive influence on behavioral intention to use Superstar Learning System.

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H7. Multiple functions exert no positive influence on behavioral intention to use Superstar Learning System.

1.6 Theoretical framework

There are four core determinants in UTAUT: (1) Performance Expectancy (PE), (2) Effort Expectancy (EE), (3) Social Influence (SI), and (4) Facilitating Conditions (FC). PE refers to "the degree to which individuals feel that using systems is helpful to their work"; EE indicates "how much effort individuals need to make use of systems"; SI means "the degree to which individuals feel affected by the surrounding groups"; FC refers to "the degree of support that individuals feel for the use of systems in related technologies" (Venkatesh, 2003).

There are four moderators that have a significant impact on the above core determinants, i.e. gender, age, experience, and voluntariness of use. Venkatesh et al. (2003) also found that the combined use of more than two control variables would make the effect more significant on behavioral intention and use behavior. This study attempts to include new constructs, i.e. lecturer and peer influences, user innovativeness, interface simplicity, and multiple functions to test the TAM of Superstar Learning System, besides the explored constructs: performance expectancy, and effort expectancy.

2. Materials and Methods

This study adopts a random sampling technique to collect data in order to test proposed research hypotheses.

2.1 Participants

We randomly selected 281 tertiary students from Faculty of Business, Faculty of Western Languages, Faculty of Humanities & Social Sciences, Faculty of Middle Eastern Studies, and Faculty of Training in a state-owned university. They major in various disciplines, e.g. English Language, Linguistics, Business Administration, Journalism and Communication, International Relations, and International Politics. They, ranging from 19 to 26 years old, have normal literacy and psychological state based on their self-reports.

2.2 Research instruments

Research instruments used in this study were adapted from Abualaish & Love's peer-reviewed article (2013). The questionnaire (Appendix A) included five adapted scales, aiming to determine five influencing constructs, i.e. performance expectancy, effort expectancy, lecturer influence, peer influence, and user innovativeness. Besides, we designed another two constructs that may influence the behavioral intention of Superstar Learning System, i.e. interface simplicity, and multiple functions. The questionnaire is internally consistent ($\alpha = 0.977$) and externally valid (KMO=.943, $P < .01$) at the significance level .05.

2.2.1 A scale to measure performance expectancy

We used five-question items to determine performance expectancy such as "I find Superstar Learning System useful for my learning.", and "Using Superstar Learning System would enable me to achieve learning tasks more quickly." Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.2 A scale to measure effort expectancy

Five items were designed to measure effort expectancy, e.g. “I would find Superstar Learning System flexible and easy to use”, and “Learning to operate Superstar Learning System does not require much effort”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.3 A scale to measure lecturer influence

We designed five items to determine lecturer influence, such as “I would use Superstar Learning System if it was recommended to me by my lecturers”, and “I would like to use Superstar Learning System if my lecturers supported the use of it”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.4 A scale to measure peer influence

Peer influence was measured through five items, e.g. “Whether my classmates use Superstar Learning System influences my use of it”, and “Whether my schoolmates use Superstar Learning System influences my use of it”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.5 A scale to measure user innovativeness

We identified user innovativeness through five items, e.g. “I like to experiment with new information technologies”, and “When I hear about a new information technology I look forward to examining it”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.6 A scale to measure interface simplicity

The influencing construct “Interface simplicity” is determined by five items, e.g. “The interface of Superstar Learning System is easy to follow”, and “The interface of Superstar Learning System is clearly organized”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.7 A scale to measure multiple functions

“Multiple functions” was identified via five items, e.g. “Superstar Learning System provides me with rich resources”, and “Superstar Learning System provides me with many learning activities”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.8 A scale to measure behavioral intention

We also used five items to measure “behavioral intention”, e.g. “I plan to use Superstar Learning System in my studies”, and “I predict that I will use Superstar Learning System frequently”. Each item is followed by a five-point Likert Scale, ranging from strongly agree, agree, neutral, disagree, to strongly disagree.

2.2.9 Superstar Learning System-assisted learning process

Superstar Learning System-assisted learning process is different from traditional learning without an aid of a mobile learning app. Superstar Learning System has the function of grouping students. It can set up learning groups according to the purpose of the study and the number of students. Generally, each group can contain 6 to 8 students. Teachers can distribute lecture materials to each group about one week before class. Each group member uses their spare time to consult, discuss and analyze the materials, and put

forward plans within the prescribed time to prepare for classroom discussion. Classroom discussions are also conducted in divided groups on the mobile platform.

The contents of the solutions proposed by the groups may include learning experience and knowledge or explanation of related theoretical knowledge. Team members debate and answer questions raised by teachers and classmates. Teachers can give timely evaluation and feedback on the platform. In addition, the assessment of academic achievements includes the mutual evaluation of team members and the assessment of their classmates. This group-based learning model enables students to learn how to express their views clearly, how to deal with different views or opinions, and how to cooperate with each other and respect each other. It is conducive to strengthening students' team consciousness and enhancing their mutual cooperation and tolerance.

When examining the completion of students' learning tasks, teachers can adopt the way of "choosing persons" in the "activity" module. The random way of choosing persons to answer questions can urge students to prepare well before class. In the process of teaching, teachers can also arrange answers according to the key points of knowledge, and students can respond online. Of course, in the development of classroom teaching, teachers can also use the "sign-in" function in learning to allow students to complete the check-in within a specified time, to inspect the attendance of students, rather than using the traditional way to roll call names. It can not only save the classroom time, but also facilitate the records of each check-in situation on the platform, which is convenient for analysis of the performance statistics. It can also conduct a questionnaire survey on teaching methods, assessment methods, and personnel training through the "voting/questionnaire" module, as well as statistical analysis of obtained data.

Teachers can use modules such as "examination" and "homework" to assign corresponding questions to each course, or carry out chapter tests, give scores according to students' answers, and statistically analyze the results. Teachers can also reflect on teaching according to the results of the analysis, find out the problems existing in students, and further adjust the teaching plan, in order to implement and improve target teaching. In addition, the completion of each assignment and scores are recorded on the system platform for the final summary. It also saves the time of marking papers for teachers.

The discussion area in the course builds a platform for communication between teachers and students. Teachers can answer students' questions in time. Students can also exchange and discuss with each other, learn from each other, and broaden their views. In addition, according to the number of tasks completed by students, the length of video viewing, the number of discussions and visits, and the learning situation of students can be tracked through the "Statistics-Student Management and Supervision" interface of Superstar Learning System.

Applying the "notification" function of Superstar Learning System Communication Platform, we can also issue relevant learning task notifications, or course announcements such as adjusting classes, arranging experimental classes, and examinations to ensure that the information is conveyed in a timely manner.

The application of Superstar Learning System in the teaching process possibly provides great convenience for enriching the classroom teaching, which is conducive to the comprehensive improvement of students' professional, methodological and collaborative abilities, and promotes the overall achievement of quality education (Liu & Zhang, 2019).

 doi:10.20944/preprints202107.0583.v1

3. Results

3.1. Pearson correlation coefficients

Pearson correlation coefficients were computed to assess the relationship between performance expectancy, effort expectancy, lecturer influence, peer influence, user innovativeness, interface simplicity, multiple functions, and behavioral intention to use Superstar Learning System (Table 1).

Table 1. Correlations

		PE	EE	LI	PI	UI	IS	MF	BI
PE	Pearson Correlation	1	.891**	.876**	.848**	.827**	.824**	.835**	.887**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
EE	Pearson Correlation	.891**	1	.913**	.877**	.828**	.845**	.822**	.889**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
LI	Pearson Correlation	.876**	.913**	1	.886**	.879**	.846**	.850**	.876**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
PI	Pearson Correlation	.848**	.877**	.886**	1	.799**	.835**	.749**	.878**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000
UI	Pearson Correlation	.827**	.828**	.879**	.799**	1	.835**	.807**	.773**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
IS	Pearson Correlation	.824**	.845**	.846**	.835**	.835**	1	.777**	.842**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000
MF	Pearson Correlation	.835**	.822**	.850**	.749**	.807**	.777**	1	.823**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000		.000
BI	Pearson Correlation	.887**	.889**	.876**	.878**	.773**	.842**	.823**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 1, there were strong, positive correlations between performance expectancy and behavioral intention ($r = 0.887$, $p < .001$), between effort expectancy and behavioral intention ($r = 0.889$, $p < .001$), between lecturer influence and behavioral intention ($r = 0.876$, $p < .001$), between peer influence and behavioral intention ($r = 0.878$, $p < .001$), between user innovativeness and behavioral intention ($r = 0.773$, $p < .001$), between interface simplicity and behavioral intention ($r = 0.842$, $p < .001$), between multiple functions and behavioral intention ($r = 0.823$, $p < .001$) at the significance level .01. Therefore, we rejected all the seven null research hypotheses.

3.2 The extended TAM

In order to answer the research question "will performance expectancy, effort expectancy, lecturer influence, peer influence, user innovativeness, interface simplicity, and multiple functions exert a positive influence on behavioral intention to use Superstar Learning System?", a WarpPLS SEM was operated to validate the extended TAM (See Figure 3).

 doi:10.20944/preprints202107.0583.v1

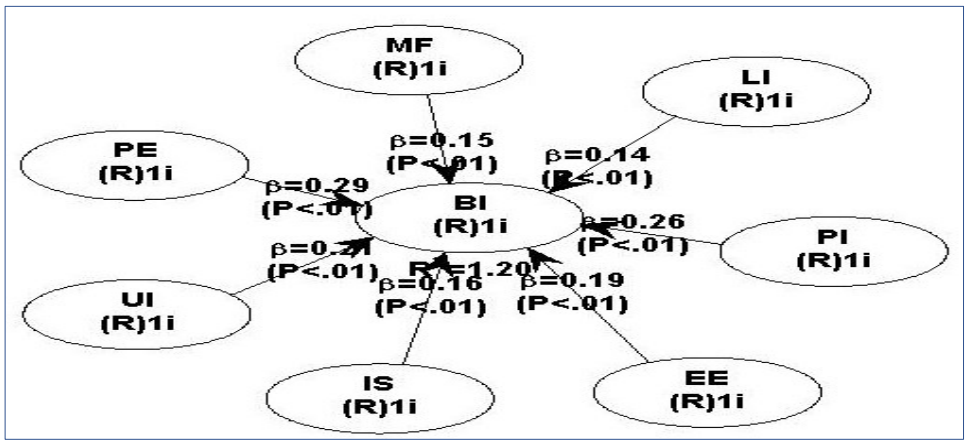

Figure 3. The extended TAM

3.3 Model fit and quality indices

As presented in Figure 3, the structural equation model is considered fit since the indices generally meet the required criteria (Kock, 2015). Average path coefficient (APC)=0.200, P<0.001; Average R-squared (ARS)=1.202, P<0.001; Average adjusted R-squared (AARS)=1.208, P<0.001; Average block VIF (AVIF)=6.857, acceptable if <= 5, ideally <= 3.3; Average full collinearity VIF (AFVIF)=7.124, acceptable if <= 5, ideally <= 3.3; Tenenhaus GoF (GoF)=1.097, small >= 0.1, medium >= 0.25, large >= 0.36; Sympson's paradox ratio (SPR)=1.000, acceptable if >= 0.7, ideally = 1; R-squared contribution ratio (RSCR)=1.000, acceptable if >= 0.9, ideally = 1; Statistical suppression ratio (SSR)=1.000, acceptable if >= 0.7; Nonlinear bivariate causality direction ratio (NLBCDR)=1.000, acceptable if >= 0.7. Therefore, we confirm that a fit extended TAM can be formulated by including the constructs of lecturer influence, peer influence, user innovativeness, interface simplicity, and multiple functions that significantly influence behavioral intention to use Superstar Learning System.

3.4 Correlations revealed

It is also shown in Figure 3 that there are strong, positive relationships between behavioral intention and lecturer influence ($\beta = .14$, $p < .01$), peer influence ($\beta = .26$, $p < .01$), user innovativeness ($\beta = .27$, $p < .01$), interface simplicity ($\beta = .16$, $p < .01$) and multiple functions ($\beta = .15$, $p < .01$) at the significance level .01. Therefore, all of the proposed seven null hypotheses were rejected.

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation, as well as the experimental conclusions that can be drawn.

4. Discussion

This discussion part explores the rationales for strong, positive correlations between performance expectancy, effort expectancy, lecturer influence, peer influence, user innovativeness, interface simplicity, multiple functions, and behavioral intention.

4.1 Performance expectancy and behavioral intention

The performance expectancy greatly influences behavioral intention to use mobile apps. In case users believe Superstar Learning System is useful for their learning, they will possibly try to use it, leading to enhanced behavioral intention. Teachers would praise students if they can complete learning tasks in a timely manner. Thus if students think Superstar Learning System can help them with their task, they would most likely use it.

 doi:10.20944/preprints202107.0583.v1

Collaboration is important in learning to improve students' academic performances. If Superstar Learning System is believed to enable students to improve their collaborative abilities and performances, they will possibly engage in the use of Superstar Learning System, which will enhance their behavioral intention.

4.2 Effort expectancy and behavioral intention

The perceived amount of effort spent using mobile apps will influence behavioral intention. In case students think Superstar Learning System, flexible and easy to use, does not require much of their effort, their intention of use will possibly be fortified. Furthermore, if Superstar Learning System can help them interact with their peers via clear and understandable instructions, their intention of use will also be strengthened.

4.3 Lecturer influence and behavioral intention

Superiors greatly influence students' decision of whether to use mobile apps. In case teachers suggest that students use Superstar Learning System, and use it themselves both in and out of class, students will possibly follow them. Teachers' further help and support for the use of Superstar Learning System will also definitely encourage students to use it, which will also consolidate their behavioral intention.

4.4 Peer influence and behavioral intention

Students tend to be in conformity with the majority of people surrounding them. In case that their classmates, schoolmates, friends, families, and other acquaintances use Superstar Learning System, they will also engage in the use of it, because they do not want to be isolated and idiosyncratic.

4.5 User innovativeness and behavioral intention

Personalities of students significantly influence the use of new technologies such as Superstar Learning System. If they like to try the new mobile app, are willing to examine it, and are ready to accept it, their behavioral intention will undoubtedly be augmented.

4.6 Interface simplicity and behavioral intention

The simple interface is also conducive to intention of use. If the interface of Superstar Learning System is concise, simple, easy to follow, clearly organized, and nearly outlined, students will possibly use it since it does not require much effort to learn.

4.7 Multiple functions and behavioral intention

Multiple functions are also an important construct influencing behavioral intention. Students will most likely not hesitate to use Superstar Learning System if it carries rich resources, contains many learning activities, includes various courses and learning approaches, and makes them follow the teacher easily and conveniently.

5. Conclusions

This section includes major findings, limitations of this study, as well as future research recommendations.

5.1 Major findings

This study concludes that performance expectancy, effort expectancy, lecturer influence, peer influence, user innovativeness, interface simplicity, and multiple functions exert a positive influence on behavioral intention to use Superstar Learning System. This is generally consistent with previous works (e.g. Venkatesh et al., 2003; Ibrahim & Jaafar, 2011; Yang & Wang, 2019; Yu & Yu, 2019).

5.2 Limitations

This study is limited to participants in a Chinese context, which might have entailed a contextual bias. Superstar learning system is an application widely used in China rather than across the world. The generalizability may be negatively influenced by this limitation.

5.3 Future research directions

Future research could extend the research context to a wider scope. Interdisciplinary research between computer sciences, education, linguistics, and other related disciplines is also needed to explore an extended TAM to use Superstar Learning System.

Funding: This research was funded by Major National Social Science Project "A Philosophical Reflection on AI and its Logic under the Background of Big Data" (Project Number: 19ZDA041), 2019 MOOC of Beijing Language and Culture University (MOOC201902) (Important) "Introduction to Linguistics", "Introduction to Linguistics" of online and offline mixed courses in Beijing Language and Culture University in 2020, and Research and reform of the "Undergraduate Teaching Reform and Innovation Project" of Beijing higher education in 2020 -- innovative "multilingual +" excellent talent training system (202010032003).

Data Availability Statement: Data and material are available in the submission.

Acknowledgments: we would like to extend our gratitude to the administrative and technical staff support and those who provided materials used for experiments.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Appendix A. Questionnaire (Adapted from Abualaish & Love, 2013)

Directions: The data collected will merely be used in this study and your personal information will remain confidential.

Section 1. Demographic information

1. My age is:

A. Below 18 years old

B. 19-21 years old

C. 22-24 years old

D. 24-26 years old

E. Over 27 years old

2. I often use Superstar Learning System

3. My Gender is:

A. Male B. Female

Section 2. Specific variables

1. Performance Expectancy (PE)

PE1. I find Superstar Learning System useful for my studies.

PE2. Using Superstar Learning System would enable me to achieve learning tasks more quickly.

PE3. Using Superstar Learning System would increase my learning productivity.

PE4. Mobile learning could improve my collaboration with classmates.

PE5. Using Superstar Learning System would not improve my performance in my studies.

2. Effort Expectancy (EE)

EE1. I find Superstar Learning System flexible and easy to use.

EE2. Learning to operate Superstar Learning System does not require much effort.

EE3. My interaction with Superstar Learning System would be clear and understandable

EE4. It would be easy for me to become skillful at using Superstar Learning System.

EE5. It would be easy for me to interact with my classmates through Superstar Learning System.

3. Lecturer Influence (LI)

LI1. I would use Superstar Learning System if it was recommended to me by my lecturers.

LI2. I would like to use Superstar Learning System if my lecturers supported the use of it.

LI3. Lecturers in my Department have been helpful in the use of Superstar Learning System.

LI4. Lecturers suggest I use Superstar Learning System.

LI5. Lecturers tell me how to use Superstar Learning System.

4. Peer Influence (PI)

PI1. Whether my classmates use Superstar Learning System influences my use of it.

PI2. Whether my schoolmates use Superstar Learning System influences my use of it.

PI3. Whether my friends use Superstar Learning System influences my use of it.

PI4. Whether my families use Superstar Learning System influences my use of it.

PI5. Whether the people surrounding me use Superstar Learning System influences my use of it.

5. User Innovativeness (UI)

UI1. I like to experiment with new information technologies.

UI2. When I hear about a new information technology I look forward to examining it.

UI3. Among my classmates, I am usually the first to try out a new innovation in technology.

UI4. I like to try a new learning platform.

UI5. I am ready to accept a new mobile learning app.

6. Interface Simplicity (IS)

IS1. The interface of Superstar Learning System is easy to follow.

IS2. The interface of Superstar Learning System is clearly organized.

IS3. The interface of Superstar Learning System is concise.

IS4. The interface of Superstar Learning System is simple.

IS5. The interface of Superstar Learning System is neatly outlined.

7. Multiple Functions (MF)

MF1. Superstar Learning System provides me with rich resources.

MF2. Superstar Learning System provides me with many learning activities.

MF3. Superstar Learning System provides me with many courses.

MF4. Superstar Learning System provides me with various learning methods.

MF5. Superstar Learning System makes me follow the teacher easily.

8. Behavioral Intention (BI)

BI1. I plan to use Superstar Learning System in my studies.

BI2. I predict that I will use Superstar Learning System frequently.

BI3. I intend to increase my use of Superstar Learning System in the future.

BI4. I will enjoy using Superstar Learning System.

BI5. I would recommend others to use Superstar Learning System.

Section 3. Acknowledgments

Thank you very much for your participation in this study.

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