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Empirical Research on Influencing Factors of Behavioral Intention with Mobile Library Among Undergraduate Students in Suzhou, China

Qibo Li*

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Abstract

Purpose: This research paper aims to investigate the significant factors that influence the use of mobile libraries at selected universities among undergraduate students. The framework considers the causal relationships between system quality, information quality, service quality, perceived ease of use, perceived usefulness, attitude, and behavior intention. **Research design, data, and methodology:** The study used a quantitative research method (n=500) to survey undergraduate students who experienced the mobile library. The sampling methods included judgmental, quota, sampling judgment, and snowball sampling. The data analysis included structural equation modeling (SEM) and confirmatory factor analysis (CFA) for model fit, reliability, and construct validity. **Results:** The results show that attitude and perceived usefulness are significant factors that affect students' behavioral intention to use mobile libraries. Perceived ease of use has a significant influence on perceived usefulness and attitude. System quality, information quality, service quality, and perceived ease of use significantly affect behavioral intention. **Conclusions:** As the main body of the university mobile library, the perception and recognition of university teachers and students are crucial to the mobile library service's existence and sustainable development. The study holds that universities should strengthen publicity, popularize education and improve information skills to improve and perfect the application of mobile library.

Keywords: System Quality, Information Quality, Attitude, Behavioral Intention, Mobile Library

JEL Classification Code: E44, F31, F37, G15

1. Introduction

With the growth of people's demand for knowledge acquisition and the development of Internet technology, knowledge information service of mobile library is an E-learning platform that integrates hardware and software infrastructure, human resources and resources and closely interacts with users' needs (Lu et al., 2003). It relies on mature wireless mobile network, information and multimedia technology. It is convenient for people to obtain information through a new library information service model. Compared with the traditional library, its outstanding features are that it is free from geographical restrictions, can be accessed immediately under the condition of smooth network, and can be searched uniformly without time restrictions. It provides users with a variety of personalized information modules, provides users with convenient information search and knowledge services, and presents library resources in a mobile and intelligent form (Paterson & Low, 2011). It satisfies the user's demand for quick access to resources, and maximizes the user's perceived pleasure in

1 *Qibo Li, Assistant, School of Industrial design, Suzhou Art & Design Technology Institute, Suzhou, China. Email: 1225920332 @qq.com

the process of receiving information (Chaveesuk et al., 2013).

With the growth of people's demand for knowledge acquisition and the development of Internet technology, the knowledge information service of mobile library is an E-learning platform that integrates hardware and software infrastructure, human resources, and resources and closely interacts with users' needs (Lu et al., 2003). It relies on mature wireless mobile networks, information, and multimedia technology. It is convenient for people to obtain information through a new library information service model. Compared with the traditional library, its outstanding features are that it is free from geographical restrictions, can be accessed immediately under a smooth network, and can be searched uniformly without time restrictions. It provides users with a variety of personalized information modules, provides users with convenient information search and knowledge services, and presents library resources in a mobile and intelligent form (Paterson & Low, 2011). It satisfies the user's demand for quick access to resources and maximizes their perceived pleasure in receiving information (Chaveesuk et al., 2013).

Compared with a traditional library, a mobile library has the characteristics of convenience, mobility, and positioning, which breaks through the time and space limitations of traditional library service, extends the breadth and depth of library service, and is favored by users (Smith et al., 2010). In recent years, more and more university libraries have opened mobile library services. Liu and Briggs (2015) surveyed the top 100 university libraries in the United States. They pointed out that 99% of the libraries provide at least three mobile library services, of which 92.6% provide mobile e-reading services. 88% of libraries provide mobile OPAC services, 81.7% provide mobile database services, and 81.6% provide mobile website services. Although the application of mobile libraries in Chinese universities is later than in foreign countries, it is developing rapidly (Wei & Yang, 2017). According to statistics, 478 university libraries in China provide mobile APP services (Fu, 2014), providing users with services such as book retrieval, service notification, reference consultation, and book renewal on mobile terminal devices.

As an extension and innovation of digital libraries, mobile libraries have incomparable advantages over traditional libraries, but related technologies and services are still in the initial stage (Duan et al., 2014). The application of mobile libraries is limited by the screen size of mobile terminal devices, Internet access speed, system compatibility, data storage format, content diversity, service depth, and other aspects (Nalluri & Gaddam, 2016). These factors may reduce user experience and service efficiency of the mobile library and further affect users' satisfaction evaluation of the library and continuous use intention (Li, 2013), which is very unfavorable to the development of the mobile library. For example, some surveys have pointed out that the current mobile library service needs to be more innovative, the service system needs to be completed, the awareness needs to be higher, the effectiveness needs to be stronger, and other problems (Wei et al., 2014). Some studies have also pointed out that users believe that mobile libraries are less useful and ease-of-use than traditional digital libraries (Zha et al., 2015). Therefore, from the perspective of system construction and user perception, it is of great significance to deeply analyze the key influencing factors and mechanism of the usage intention of mobile libraries and put forward relevant measures accordingly. Accordingly, the framework of this study includes seven variables: system quality, information quality, service quality, perceived ease of use, perceived usefulness, attitude, and behavior intention, to explore further the factors that influence undergraduate students' behavior intention with a mobile library.

2. Literature Review

2.1 System Quality

System quality is the quality reliability of a mobile library service platform (Wei et al., 2015), which is mainly measured from a technical perspective, including the rationality of page design, the aesthetics of page design, the system's fluency, and the system's stability. The cognitive ability of young college students enables them to have more understanding of information technology platforms and products (Nelson et al., 2005) and also affects their value of system quality to varying degrees. Most respondents mentioned the impact of system quality on their willingness to use it (Huang & Duangekanong, 2022).

System interface design is the first step to achieving interaction with users. Chang and Chen (2008) proposed four measurement dimensions of interface quality customization, interactivity, convenience, and interface features. System fluency and stability are the basic requirements of college students for all kinds of information service systems (Duy Phuong & Dai Trang, 2018), and most users have a very low tolerance for system delays and system errors. Hence, a hypothesis is proposed:

H1: System quality has a significant effect on perceived usefulness.

2.2 Information Quality

Information quality refers to the quality of different information content delivered by mobile library service platforms. Delone and Mclean (1992) defined information

quality as the measurement of information system products in the success model of information systems, and scholar McKinney et al. (2002) measured information quality from the ease of understanding, reliability, and usefulness. Zheng et al. (2013) incorporated reliability, objectivity, value-added, timeliness, richness, and information form into the information quality of the virtual information community.

Mobile library service is a kind of information service in the final analysis, and information quality mainly refers to whether the mobile information service provided by university libraries meets the needs of users (Wei et al., 2015) and whether the information is accurate, novel, convenient to obtain and rich in types. The information resources of the university mobile library all come from the university library database. Thus, a hypothesis is suggested:

H2: Information quality has a significant effect on perceived usefulness.

2.3 Service Quality

Service quality is the subjective evaluation of users' perception of service (Parasuraman et al., 1994). Currently, most research on service quality takes Gronroos' two-dimensional model and Parasuraman's five-dimensional model as the basic framework. Among them, the two-dimensional model consists of functional quality and technical quality (Grönroos, 1984), and the five-dimensional model includes five aspects: tangibility, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988). Previous studies have shown that service quality has an important impact on user satisfaction. For example, Landrum et al. (2010) investigated users of two military libraries. They found that high-quality digital information service quality can improve user experience and form a positive evaluation of library services. Shin et al. (2013) found that the service quality of shopping websites significantly impacts customer satisfaction.

Service quality mainly reflects how university mobile library service users obtain services from mobile library service platforms closely related to libraries, mobile library terminals, and mobile users (Pu et al., 2015). The network environment supports university users to use mobile library services. It is an important guarantee for university users to obtain mobile services, which mainly includes the stability and responsiveness of mobile networks (Rafique et al., 2020). The client interface design of the university mobile library reflects the aesthetics, clarity, functional completeness, and navigation practicability of human-computer interaction. It is an important measure of mobile service quality (Rafique et al., 2020). Mobile devices mainly examine the compatibility between the device system held by the user and the service client and whether the mobile service can be fully used. Therefore, a hypothesis is set:

H3: Service quality has a significant effect on perceived usefulness.

2.4 Perceived Ease of Use

Perceived ease of use measures the effort users require to use new technologies for mobile library services (Tahar et al., 2020). The development of the technology environment promotes the upgrading of the mobile library service platform, and users need to constantly learn to adapt to the new changes in the platform when using mobile library service (Yusoff et al., 2009). In the interview process, users' evaluation of perceived ease of use is usually linked with ease of operation and rationality of interface design. Suppose the logic of the interface setting is in line with most people's usage habits. In that case, college students are more likely to feel pleasure in smooth operation, which will further affect the sustainable use of mobile library services (Ramayah, 2006).

In the mobile library information system, the perceived ease of use variable is represented by the operating cost of the library user. It involves the user's perceived ease of using the mobile library service. In the technology acceptance model, Davis (1989) confirmed that ease of use positively impacts user attitude. Some respondents said that when obtaining information resources, if the query path is too long or there are too many operations, the use is not convenient enough, not only reducing their satisfaction with the use of the service but also their willingness to use the service again will be greatly reduced. The empirical research of scholar Guan (2020) shows that perceived ease of use significantly impacts user satisfaction and continuous use intention. Accordingly, this study can put forward hypotheses:

H4: Perceive ease of use has a significant effect on perceived usefulness.

H6: Perceive ease of use has a significant effect on attitude.

2.5 Perceived Usefulness

Perceived usefulness can reflect users' benefits to their studies and life after using mobile library services (Hess et al., 2014). More respondents affirmed that mobile library services could improve their learning and work efficiency (Liaw & Huang, 2013), such as the satisfaction of scientific research needs, the coverage of course needs, and the convenience of library news push reminders. Empirical studies by many researchers also confirmed the positive impact of perceived usefulness on users' attitudes and usage intentions (Hamid et al., 2016).

Perceived usefulness refers to the degree to which users believe using a certain information technology or service can improve their performance (Venkatesh et al., 2003). The empirical research of scholar Guan (2020) also shows that

perceived usefulness significantly impacts the intention of continuous use. In the context of this study, only when college students perceive that the services provided by mobile libraries can meet their learning needs and improve the efficiency of information acquisition can they be satisfied with the services of the mobile libraries and enhance their willingness to continue using them (Venkatesh et al., 2003). Thereby, this research can hypothesize that:

H5: Perceived usefulness has a significant effect on attitude.

H7: Perceived usefulness has a significant effect on behavior intention.

2.6 Attitude

Oliver (1980) proposed that attitudes directly affect users' willingness to continue using information systems, which was subsequently confirmed by Bhattacherjee (2001) and Joo and Choi (2016). Bhattacherjee (2001) defines attitude as a user's overall experience of using an information technology service and believes that attitude is an important variable in predicting the willingness to continue using it. In the context of using the mobile library, if users are satisfied with its process, they will increase their willingness to continue using it. The interview results also show that whether various services can satisfy college students is satisfied largely determines whether college users continue to use the service.

User attitude is a subjective evaluation after comparing users' actual feelings and expectations of receiving library services (Zhao et al., 2015). Many scholars have verified the conclusion that user attitude positively affects users' intention to continue using in different research scenarios, such as mobile library (Zhao et al., 2015), website (Barnes & Vidgen, 2014), and reading promotion user participation (Zhang & Xiong, 2017). Based on previous studies, a hypothesis is indicated:

H8: Attitude has a significant effect on behavioral intention.

2.7 Behavior Intention

Behavioral intention is the possible prediction of users in a certain situation (Netemeyer & Bearden, 1992), mainly manifested in the possibility that users think they can use a mobile library to study and work in the future. This is different from the actual user behavior; the behavior intention focuses more on whether the user will have a certain behavior in the future (Steel & Ovalle, 1984), especially for users who lack appropriate behaviors in real life. Behavior intention can accurately describe the behavior state of potential users, and behavior intention can affect users' future behavior (Huang et al., 2015).

Some researchers have analyzed the intention of mobile library users from different angles. Using the task-technology matching theory and information system continuous use model, Guo (2014) selected variables such as technical features, task features, task-technology matching, perceived usefulness, satisfaction, etc., to analyze the influence of task-technology matching degree on users' perceived usefulness and usage intention. Li and Hu (2014) adopted the TAM model to explore the motivation of users' intention to use mobile libraries from the perspective of information security perception and set 6 variables, including usage attitude, information security awareness, usage intention, library-oriented information security perception, perceived ease of use and perceived usefulness, to explore the influence of information security factors on the intention to use the mobile library.

3. Research Methods and Materials

3.1 Research Framework

This conceptual framework is developed from three theoretical models adapted from previous research frameworks. In the first study, Hu and Zhang (2016) studied the impact of System Quality (SyQ) on Perceived Usefulness (PU), the impact of Information Quality (IQ) on Perceived Usefulness (PU), the impact of Service Quality (SeQ) on Perceived Usefulness (PU). Second, Yip et al. (2021) confirmed that Perceived Ease of Use (PEOU) has an impact on Perceived Usefulness (PU), Perceived Usefulness (PU) has an impact on Attitude (ATT), Perceived Ease of Use (PEOU) has an impact on Attitude (ATT), Perceived Usefulness (PU) has an impact on Behavior Intention (BI). Third, Wang et al. (2018) studied the impact of Attitude (ATT) on Behavior Intention (BI).

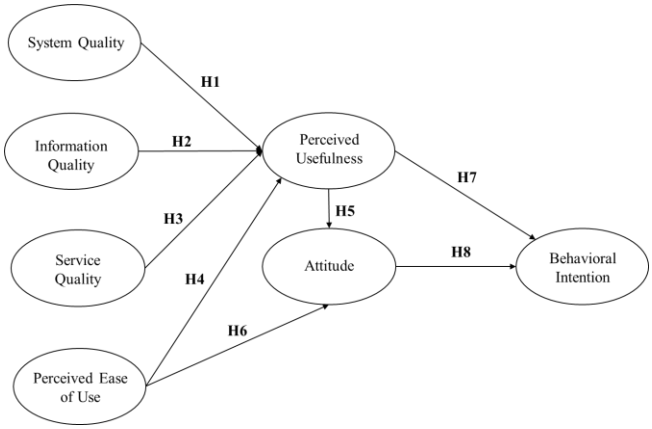

Figure 1: Conceptual Framework

This study aims to investigate the key factors that behavior intention and the relationships among various variables, including System Quality (SyQ), Information

Quality (IQ), Service Quality (SeQ), Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Attitude (ATT) in mobile library at the undergraduate level at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University. In addition, this study also examines the causal relationships among each variable to explain the factors that affect behavioral intention.

3.2 Methodology

The researchers used a non-probability sampling quantitative method to send the survey questionnaire via the internet to undergraduate students at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University, who had experienced mobile libraries. They collected and analyzed key factors that significantly impacted student satisfaction. The survey was divided into three parts. The first part identified the characteristics of the respondents by screening questions. The second part used Likert scales to test seven proposed variables, ranging from strongly disagree to agree strongly. Finally, demographic questions about the school, major, and education level were asked.

A pilot test was also conducted, with expert ratings of the consistency of the project objectives (IOC) for 30 respondents and pilot testing conducted. The validity and reliability of Cronbach's Alpha method were tested. For IOC's results, three experts evaluated a total of 22 scale items, and the result was that the final score of all items was greater than 0.6. CA's values of pilot test are between 0.8-0.9 indicates that the reliability of the scale is very good (Bland & Altman, 1997).

After the reliability test, the questionnaire was distributed to the target respondents, and 500 responses were received. The researchers analyzed the collected data using SPSS AMOS 26.0. Then, they used confirmatory factor analysis (CFA) to test its convergent validity and validity. The model fit measurement values were calculated through a comprehensive test of the given data to ensure the validity and reliability of the model. Finally, the researchers used a structural equation model (SEM) to test the influence of the variables.

3.3 Population and Sample Size

This research targets undergraduate students from three universities at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University. The sample size recommended for the structural equation model is at least 425 participants (Liao, 2010). This study used 500 respondents.

3.4 Sampling Technique

The researchers used non-probability sampling, judgmental sampling to qualify undergraduates at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University, which have experienced mobile libraries. Quota sampling was used to proportionate sample size per each university (see Table 1). Afterward, the researchers used the convenience sampling tool Question Star to distribute the online questionnaire.

Table 1: Population and Sample Size by university

University	Population	Proportional Sample Size
Soochow University	27800	226
Suzhou University of Science and Technology	17000	138
Xi'an Jiaotong-liverpool University	16800	136

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

The demographic target of the study is information from 500 participants. All respondents are undergraduate students at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University who have used mobile libraries in three universities. The demographic results of 500 undergraduates show that 257 were males and 243 were females, accounting for 51.4 percent and 48.6 percent, respectively. Most respondents are third-year students of 30 percent, followed by first-year of 24.2 percent, fourth-year of 23.2 percent, and second-year of 22.6 percent. The majority group of students uses a mobile library 4 to 6 days per week 39 percent (see Table 2).

Table 2: Demographic and Profile

Demographic and General Data (N=1,000)		Undergraduates (n=500)	
		Frequency	Percentage
Gender	Male	257	51.4%
	Female	243	48.6%
Undergraduate Year	First Year	121	24.2%
	Second Year	113	22.6%
	Third Year	150	30.0%
	Fourth Year	116	23.2%
Frequency use of Mobile Library	3 days/week or below	185	37.0%
	4-6 days/week	195	39.0%
	7 days/week	120	24.0%

Source: Constructed by author

4.2 Confirmatory Factor Analysis (CFA)

This study used confirmatory factor analysis (CFA). All items in each variable were significant, representing factor loadings that test for convergent validity. Wang and Ahmed (2013) emphasized the importance of factor loading for each item. Factor loading requirements were set at 0.5, with P-value coefficients less than 0.05. In addition, according to Fornell and Larcker (1981), cutoff points were set at CR greater than 0.7 and AVE greater than 0.5. As shown in Table 3, the factor loading values were above 0.5, with CR above 0.7 and AVE above 0.5. The results indicate that the CFA test was good and that the data analysis results were valid and reliable (see Table 3).

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
System Quality (SyQ)	(Wei et al., 2015)	3	0.801	0.745-0.772	0.802	0.575
Information Quality (IQ)	(McKinney et al., 2002)	3	0.804	0.746-0.781	0.805	0.580
Service Quality (SeQ)	(Landrum et al., 2010)	3	0.808	0.721-0.821	0.808	0.585
Perceived Usefulness (PU)	(Hess et al., 2014)	4	0.840	0.721-0.812	0.839	0.567
Attitude (ATT)	(Joo & Choi, 2016)	3	0.802	0.725-0.778	0.804	0.577
Perceived Ease of Use (PEOU)	(Tahar et al., 2020)	3	0.822	0.761-0.805	0.824	0.609
Behavior Intention (BI)	(Huang et al., 2015)	3	0.828	0.767-0.829	0.831	0.621

Source: Constructed by author

Discriminant validity is generally believed that the correlation coefficient between latent variables should be controlled at the cut-off value 0.85. If greater than 0.85, the correlation between construct dimensions is too strong without obvious discriminatory validity. Secondly, the square root of the AVE value of each variable and the size of the Pearson correlation coefficient between the variables are judged. When the AVE value of each variable is greater than the correlation coefficient between the variables, it indicates good discriminatory validity (Fornell & Larcker, 1981). The assessment of discriminant validity is sufficient to establish construct validity per the results in Table 4.

Table 4: Discriminant Validity

	SyQ	IQ	SeQ	PU	ATT	PEOU	BI
SyQ	**0.758**						
IQ	0.200	**0.761**					
SeQ	0.200	0.231	**0.765**				
PU	0.268	0.351	0.554	**0.753**			
ATT	0.266	0.273	0.336	0.327	**0.760**		
PEOU	0.313	0.268	0.344	0.363	0.319	**0.780**	
BI	0.284	0.195	0.248	0.290	0.243	0.273	**0.788**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Constructed by author.

The goodness of fit is a critical aspect of Confirmatory Factor Analysis (CFA) that evaluates how well the hypothesized measurement model matches the observed data. Various fit indices are used to assess the fit between the model and the data, providing insights into the model's validity (Hair et al., 2019). In Table 5, the measurement model fit was tested in statistical software. The model ensures acceptable fit without adjustment, including CMIN/DF=4.714, GFI= 0.882, AGFI = 0.841, NFI=0.833, CFI=0.863, TLI =0.831, and RMSEA = 0.086.

Table 5: Goodness of Fit for Confirmatory Factor Analysis

Index	Acceptable Values	Statistical Values
CMIN/DF	≤ 5.0 (Wheaton et al., 1977)	886.192/188 4.714
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.882
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.841
NFI	≥ 0.80 (Wu & Wang, 2006)	0.833
CFI	≥ 0.80 (Bentler, 1990)	0.863
TLI	≥ 0.80 (Sharma et al., 2005)	0.831
RMSEA	≤ 0.10 (Hopwood & Donnellan, 2010)	0.086
Model Summary		**In harmony with empirical data**

Note: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, IFI = Incremental Fit Indices, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation
Source: Constructed by author.

4.3 Structural Equation Model (SEM)

The structural equation model (SEM) is a generalization of the regression model, which has many advantages that the regression model does not have: it can deal with multiple independent variables and dependent variables at the same time, meeting the increasingly complex needs of theoretical models in social science research; It can analyze both explicit and latent variables at the same time, which is consistent with the general implicit characteristics of variables in social science research; The measurement error of independent variables is allowed, and the parameter estimation accuracy is higher; It has rich fitting evaluation indexes to evaluate the model, etc. These advantages make SEM an important statistical method in social science research (Wang et al., 2022).

The goodness of fit indices for the Structural Equation Model (SEM) is measured as demonstrated in Table 6. The calculation in SEMs and adjusting the model by using SPSS AMOS, the results of the fit index were presented as a good fit, which are CMIN/DF = 3.099, GFI = 0.892, AGFI = 0.862, NFI = 0.884, CFI = 0.918, TLI = 0.905 and RMSEA = 0.065, according to the acceptable values are mentioned (see Table 6).

Table 6: Goodness of Fit for Structural Equation Model (SEM)

Index	Acceptable Values	Statistical Values Before Adjustment	Statistical Values After Adjustment
CMIN/DF	≤ 5.0 (Wheaton et al., 1977)	1113.960/201 or 5.542	616.686/199 or 3.099
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.848	0.892
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.808	0.862
NFI	≥ 0.80 (Wu & Wang, 2006)	0.790	0.884
CFI	≥ 0.80 (Bentler, 1990)	0.820	0.918
TLI	≥ 0.80 (Sharma et al., 2005)	0.794	0.905
RMSEA	≤ 0.10 (Hopwood & Donnellan, 2010)	0.095	0.065
Model summary		**Not in Harmony with Empirical Data**	**In Harmony with Empirical Data**

Note: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = goodness-of-fit index, AGFI = adjusted goodness-of-fit index, NFI = normalized fit index, IFI = Incremental Fit Indices, CFI = comparative fit index, TLI = Tucker Lewis index, and RMSEA = root mean square error of approximation
Source: Constructed by author.

4.4 Research Hypothesis Testing Result

The research model judges the significance of the regression path coefficient according to its t-value and calculates the explanatory ability of the independent variable to the dependent variable. Table 7 reports that at the level of significance *p<0.05, **p<0.01, ***p<0.001. All the hypotheses were supported. The coefficient of influence of system quality on perceived usefulness is 0.109, that of information quality on perceived usefulness is 0.249, that of service quality on perceived usefulness is 0.530, that of perceived ease of use on perceived usefulness is 0.131, that of perceived usefulness on attitude is 0.265, that of perceived ease of use on attitude is 0.294, that of perceived usefulness on behavior intention is 0.225, and finally, that of attitude on behavior intention is 0.211. Service quality has the greatest influence on perceived usefulness (see Table 7).

Table 7: Hypothesis Result of the Structural Model

Hypothesis	Standardized path coefficient (β)	t-value	P	Testing result
H1: SyQ → PU	0.109	2.460	0.014*	Supported
H2: IQ → PU	0.249	5.444	***	Supported
H3: SeQ → PU	0.530	10.672	***	Supported
H4: PEOU → PU	0.131	3.007	0.003**	Supported
H5: PU → ATT	0.265	5.003	***	Supported
H6: PEOU→ ATT	0.294	5.352	***	Supported
H7: PU → BI	0.225	4.114	***	Supported
H8: ATT → BI	0.211	3.697	***	Supported

Note: *P < 0.05, **P < 0.01, ***P < 0.001
Source: Constructed by author.

H1 has confirmed that system quality is a factor that affects perceived usefulness, with a result of 0.109. Wei et al. (2015) found that system quality positively correlates with perceived usefulness. The result for H2 is 0.249, indicating that information quality has an impact on perceived usefulness. McKinney et al. (2002) found that information quality positively correlates with perceived usefulness. The result for H3 is 0.530, indicating that service quality impacts perceived usefulness. Landrum et al. (2010) found that service quality positively correlates with perceived usefulness. The result for H4 is 0.131, indicating that perceived ease of use impacts perceived usefulness. Hess et al. (2014) found that perceived ease of use positively correlates with perceived usefulness. The result for H5 is 0.265, indicating that perceived usefulness impacts attitude. Joo and Choi (2016) found that perceived usefulness positively correlates with attitude. The result for H6 is 0.294, indicating that perceived ease of use impacts attitude. Tahar et al. (2020) found that perceived ease of use positively correlates with attitude. The result for H7 is 0.225, indicating that perceived usefulness impacts behavior intention. Venkatesh et al. (2003) found that perceived usefulness positively correlates with behavioral intention. Finally, the result for H8 is 0.211, indicating that attitude impacts behavior intention. Huang et al. (2015) found that attitude is positively correlated with behavioral intention.

5. Conclusions and Recommendation

5.1 Conclusion

This study explores the factors that influence the behavior intention of the mobile library at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University. The model consists of 7 variables and eight hypotheses. The hypotheses are the impact of system quality on perceived usefulness, the impact of information quality on perceived usefulness, the impact of service quality on perceived usefulness, the

impact of perceived ease of use on perceived usefulness, the impact of perceived usefulness on attitude, the impact of perceived ease of use on attitude, the impact of perceived usefulness on behavior intention, and the impact of attitude on behavior intention. The questionnaire survey was conducted among students who have experienced the mobile library at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University, and the purpose of data analysis was to explore the factors that influence the behavior intention of the mobile library. Confirmatory factor analysis (CFA) was used to measure the validity and reliability of the conceptual model. The structural equation model (SEM) was used to analyze the proposed relationships among the hypotheses.

The results are as follows: First, system quality, information quality, and service quality have a significant impact on perceived usefulness, and service quality has the greatest impact on perceived usefulness; that is, service quality largely determines whether students perceive usefulness and perceived usefulness has a significant impact on behavior intention. This indicates that system, information, and service quality indirectly affect behavior intention. Secondly, perceived ease of use significantly impacts perceived usefulness and attitude, while perceived usefulness and attitude both significantly impact behavior intention. This suggests that perceived ease of use indirectly affects behavior intention. In addition, perceived usefulness has a significant impact on both attitude and behavior intention, and attitude has a significant impact on behavior intention, which indicates that perceived usefulness has a direct and indirect impact on behavior intention. Finally, an attitude has a significant effect on behavior intention.

To sum up, when using mobile libraries, attitude, and perceived usefulness are important factors that affect students' behavior and intention to use mobile libraries. Perceived ease of use has a significant influence on perceived usefulness and attitude. Service quality has the greatest influence on perceived usefulness. System quality, information quality, service quality, and perceived ease of use have positive effects on behavior intention indirectly.

5.2 Recommendation

Researchers have found that through a survey of behavior intention with the mobile library at Soochow University, Suzhou University of Science and Technology, and Xi'an Jiaotong-Liverpool University, it can be concluded that the key factors affecting behavior intention are perceived usefulness and attitude. The main factor affecting behavior intention with a mobile library is perceived usefulness. As the main body of the university mobile library, the perception and recognition of university teachers and students are crucial to the mobile library service's existence and sustainable development. How to effectively improve the acceptance intention of users to the mobile library is a problem worthy of attention and urgent solution. It can be said that the success of a mobile library depends on the acceptance of users, who are the final recipients of this technical model of a mobile library, and their views, attitudes, and behavioral intentions directly affect the effect of technology implementation, especially the understanding and acceptance of mobile library will become an important standard for the success or failure of mobile library construction. This paper argues that the perceived usefulness and perceived ease of use should be improved from the aspects of increasing the construction of mobile information resources, improving the function of the mobile library, expanding system compatibility, strengthening the simplicity of system operation, optimizing the design of the interface, and improving personalized service. At the same time, this paper holds that we should strengthen publicity, popularize education and improve information skills to improve and perfect the application of mobile library.

5.3 Limitation and Further Study

Some limitations could be improved in the future research. First of all, many variables affect the continuous use intention of mobile library users, and future research needs to combine qualitative research methods to summarize other research variables further. Secondly, mobile libraries in different regions can be added to future research for empirical analysis and comparison, and at the same time, the classified research on teacher and student groups can be strengthened, which needs to be further verified. Finally, how to improve users' willingness to continue to use is still the direction of continuous attention in future research.

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