

Critical Factors Shaping Graduating Undergraduates' Satisfaction and Intention to Use Digital Libraries in Sichuan, China

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Received: September 20, 2024. Revised: January 31, 2025. Accepted: February 18, 2025

Abstract

Purpose: This study investigated the critical factors affecting graduating undergraduates' satisfaction with and intention to use digital libraries in Sichuan, China. The conceptual framework explored the cause-and-effect relationships among information quality, service quality, system quality, digital libraries' affinity, resource quality, content, satisfaction, and intention to use. **Research design, data, and methodology:** A quantitative approach was employed with a sample size of 500 graduating undergraduates from the Southwestern University of Finance and Economics (SWUFE), Tianfu College, Sichuan Province, China. The study utilized non-probability sampling methods, including judgmental sampling to select four majors, quota sampling to determine sample size, and convenience sampling to collect data via online and offline questionnaires. Data analysis was conducted using structural equation modeling (SEM) and confirmatory factor analysis (CFA), focusing on model fit, reliability, and construct validity. **Results:** The findings reveal that information quality and service quality of digital libraries have a significant direct impact on user satisfaction, while resource quality and content also notably affect satisfaction. Satisfaction, in turn, has the strongest influence on the intention to use digital libraries. However, system quality and digital libraries' affinity do not significantly impact satisfaction. **Conclusions:** Based on these results, it is recommended that digital libraries enhance their services for graduating students by improving system quality and fostering emotional engagement.

Keywords: Information Quality, Service Quality, System Quality, Digital Libraries, Content Satisfaction

JEL Classification Code: E44, F31, F37, G15

1. Introduction

With the continuous development of the information network society, cultural information service institutions and digital technologies have increasingly integrated. This integration has led to the gradual popularization of the concept of digital libraries, which are networked information databases with digital content in various formats. These libraries offer multiple points of information access and have become deeply rooted in the minds of the public. The vision of digital library development was realized primarily with the advent of the internet, which made it possible to browse and navigate information resources on websites and information databases.

A digital library is a viable proposition for the preservation of library information resources, even print information resources that can be converted into digital

format through scanning and retrospective migration (Kato et al., 2020). The demand for digital library services arises from the rapid growth of digital content and the challenges posed by the information explosion, which necessitate enhanced capabilities for managing and processing the vast amount of digital information available on the internet. Digital libraries can provide faster and more accurate access to information, regardless of where it is stored. Digital libraries provide various resources, including specialized personnel responsible for selecting, organizing, providing intellectual access, interpreting, distributing, and preserving the integrity of digital works. They also ensure the long-term preservation of these works, making them easily and economically accessible to a specific community or multiple communities (Raitt, 1999).

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Digital Libraries store materials in electronic format and manipulate large collections of those materials effectively. Research into digital libraries is research into network information systems, concentrating on developing the necessary infrastructure to effectively mass-manipulate the information on the Net (National Science Foundation, 1999). The digital library is not a single entity; It requires technology to link the resources of many services that are transparent to the end-users. Universal access to digital libraries and information services is a goal. Digital library collections are not limited to document surrogates; they extend to digital artifacts that cannot be represented or distributed in printed formats. The digital library collects services and information objects that support users in dealing with information objects available directly or indirectly via electronic/digital means (Leiner, 1998). A managed collection of information, with associated services, where the information is stored in digital formats and accessible over a network (Arms, 2000). Further discussions with colleagues at the International Conference on Digital Libraries in New Dehli in December 2006 and at the American Library Association 171 Midwinter meeting in Seattle in January 2007 produced a rich variety of input for discussion, but nothing definitive. Like many dynamic social organisms, a digital library turned out to be hard to pin down.

Since China began research and practice in digital libraries in 1995, the field has experienced rapid development. Many projects have been launched and achieved significant progress in recent years. Below are some of the representative projects. The participant organizations are conducting relevant research and development and have made good progress on the metadata standard, one of the key standards of digital library technologies (Zhang, 2003). Artificial intelligence would be employed in the system for quick search across multiple resource warehouses (Xiao et al., 2002). Ongoing work includes developing standards and specifications relative to digital library construction and selecting or developing suitable integration technologies to support all the participant libraries to establish a multi-layer digital library system (Xiao et al., 2002). As a national digital resource system backed by high and new technologies, the China National Digital Library Project (CNDL) is constructed to establish a super-large, quality, digital Chinese resource library cluster over the internet to provide efficient services to China and the world via the national communication backbone (Zhang, 2003)

Consequently, Digital libraries play a significant role and have an important impact on university students in China. This study, focusing on Tianfu College, Southwestern University of Finance and Economics, Sichuan, China, aims to investigate the factors influencing the satisfaction and intention to use of graduating undergraduates towards digital

libraries. The findings of this study could have a direct impact on the digital library services provided to students at this institution.

2. Literature Review

2.1 Information Quality

Previous research has indicated that information quality may directly impact business value and user satisfaction, improving efficiency and lower costs (Fosso Wamba et al., 2018). Notably, however, the respondents in the Fosso Wamba et al. (2018) study were business analysts, business analytics, and IT professionals rather than the marketing managers of the firms. This impacted the effect and strength of the proposed relationships. A meta-analysis study examined the link between information quality and user satisfaction at the individual level in 37 studies. Its findings report a correlation of 0.55 (Ramírez-Correa et al., 2015). The same study examined the relationship between system quality and user satisfaction at the individual level in 47 studies. In this case, a correlation of 0.56 was declared. Also, in several contexts of the use of IT, studies support that the level of global user satisfaction is predicted by both information quality (Chen et al., 2013; Floropoulos et al., 2010; Poelmans et al., 2013; Sørsum et al., 2012) and system quality (Park et al., 2009; Petter & Fruhling, 2011; Ramayah & Lee, 2012; Urbach et al., 2010; Wang & Lu, 2014).

Besides, information quality can also affect consumers' social satisfaction with social group-buying website platforms (Hsu et al., 2018). When the information provided by firms is of high quality, consumers will generally believe that the merchant's transaction intention is more obvious, and they are more likely to win consumers' trust by providing good information services (Li et al., 2017). Meanwhile, suppose the quality of the content generated by the website users is high. In that case, it will help consumers to have a more accurate understanding of the firms and products and reduce the uncertainty of decision-making, thus promoting a stronger emotional connection with the merchants (Nilashi et al., 2016).

H1: Information quality has a significant impact on satisfaction.

2.2 Service Quality

The superior service quality yields higher satisfaction levels (Zia, 2020). Many studies discovered a positive relationship between service quality and satisfaction (Fida et al., 2020; Khoo, 2020; Sohail & Hasan, 2021). Khoo (2020) found that service quality is a major factor in shaping and increasing customer satisfaction. Furthermore, research on

service quality concludes that service quality significantly influences patient satisfaction in healthcare settings (Ahmed et al., 2017). There is evidence suggesting that service quality has an influential power on patient satisfaction specifically (Aburayya et al., 2020). From Jandavath and Byram (2016) point of view, patient satisfaction is significantly shaped by the dimensions of service quality, where it was proposed that perceived service quality is positively related to satisfaction. A study by Zaid et al. (2020) showed that patient satisfaction was noticeably impacted by service quality in Palestinian healthcare organizations. Another study has also concluded that patient satisfaction is a main concern for successful service organizations and that healthcare service quality is a key determinant of patient satisfaction (Suhail & Srinivasulu, 2021).

The demand for personalized services is on the rise, significantly impacting the importance of service quality in e-commerce platforms. This trend, as noted by Chan and Wan (2012), has made service quality a crucial factor in determining whether e-commerce platforms can maintain a competitive advantage in a fierce market. The service information, online service attitude, return and exchange policies, logistics information, and service remedial measures provided by firms are now the basis for consumers to judge the quality of goods and affect their satisfaction and final decision-making behavior. Rekik et al. (2018) provided evidence that consumers usually evaluate the service quality by whether support staff can solve their “doubts” in a timely and effective manner.

H2: Service quality has a significant impact on satisfaction.

2.3 System Quality

When the system quality of social commerce group-buying websites is high, buyers can reduce transaction costs by using the platform to save information search costs, thus increasing consumers' economic satisfaction (Xiao, 2018). On the other hand, the fast response of the system and the security and speed of payment make consumers save more time in the shopping process, which is also an effective way to improve economic satisfaction (Liu et al., 2018). The IS success model has been used to demonstrate that system quality can influence user satisfaction (DeLone & McLean, 2003). Hong et al. (2006) implied that system quality is the basis for post-adoption intentions and behaviors. Markus (2005) argued that technological features are critical in supporting user interaction online and can further the success of virtual communication. Indeed, virtual communication is expected to design the system so that users can efficiently and effectively access information and participate in group discussions (Blanchard, 2007; Ma & Agarwal, 2007).

Moreover, coherent navigation and search tools enable users to retrieve relevant information and post messages

while restricting information overload (Hong et al., 2006). Prior IS-related studies by Durvasula et al. (2004), Laumer et al. (2017), and Wang et al. (2019) have confirmed that system quality is a significant predictor of user satisfaction. The research posits that when participation and finding information in WhatsApp groups is fast, easy, and reliable, students are more likely to benefit significantly from participation and enjoy greater satisfaction.

In the online context, industrial system functionality is important in shaping app usage satisfaction (Bao & Zhu, 2021). Fang et al. (2011) and Mohammadi and Dickson (2021) further supported the notion that system quality positively affects satisfaction in online shopping. When consumers encounter function problems like system crashes while using retail apps to purchase or browse products and services online, this can leave users waiting a long time to find out the information or receive the service. Such occurrence will lead to an unpleasant and unsatisfying shopping experience (Collier & Bienstock, 2006). Fang et al. (2011) found that users have a satisfying shopping experience when browsing PCHome's online shopping website, which has no function problems and is easy to load.

H3: System quality has a significant impact on satisfaction.

2.4 Digital Libraries' Affinity

In the recent study by Zha et al. (2019) in the field of innovative information search in digital libraries, it was concluded that digital library affinity is the most powerful factor in innovative information search. We use the media affinity theory to explore the importance of digital libraries in users' academic lives. Librarians and service providers need to put in much effort to build and organize digital information, including abstract databases, full-text databases, and custom databases (Zha et al., 2012), and provide quality services, as the quality of digital resources may affect users' perception of their importance. For example, if a digital library has low quality, users may feel it lacks the ability to provide high-quality information resources or services. Therefore, this affects users' understanding of the importance of digital libraries.

Based on the existing research results, the current study conceptualizes DLs' affinity as undergraduates' perceived importance of university digital libraries in their learning and college life. For example, undergraduates may feel that a university digital library meets their information needs if it provides good service, information, and system quality. Meanwhile, they may think that librarians lack the ability to provide them with high-quality information resources and services. As a result, they will perceive the importance of digital libraries to their study and life. Meanwhile, their satisfaction with the digital library would be high, and they would use the university digital library again. Studies have

found that DLs' affinity significantly affected user satisfaction (Xu & Du, 2018; Zha et al., 2014).

H4: Digital libraries' affinity has a significant impact on satisfaction.

2.5 Resource Quality

Resource quality is an important factor affecting resource usage intention (Lee et al., 2009). Various criteria have been suggested for judging the quality of information resources. Resource quality itself is a multi-dimensional concept, and many extant studies introduced several indicative variables, among them reliability, credibility, currency, completeness, sufficiency, comparability, timeliness, and coverage (Bailey & Pearson, 1983; Bharati & Chaudhury, 2006). Resource quality has been a critical concern in understanding the acceptance of information systems. For example, the information system success model suggested by DeLone and McLean (1992) viewed information quality, which is an equivalent concept to resource quality, as one of the key determinants that influence the use intention of an information system. In addition, resource quality is a key factor in adopting information systems in web-based systems (Calisir et al., 2014; Xu et al., 2013).

H5: Resource quality has a significant impact on satisfaction.

2.6 Content

Content can cultivate positive attitudes in customers towards trust, satisfaction, loyalty, and commitment (Cyr, 2008; Cyr & Head, 2013) and can serve as a driving factor for purchasing behavior because visual content can satisfy people's sense of usefulness and pleasure (Li & Yeh, 2010). Additionally, due to the inherent risks and uncertainties associated with online shopping (Featherman et al., 2006), suppliers' visual content can help customers meet their information needs (Cyr et al., 2009). This satisfaction can, in turn, increase trust and lead to transactions (Wells et al., 2011). Therefore, e-WOM that includes visual content has a greater impact on consumers' purchase intentions than e-WOM without visual information (Lin et al., 2012). Based on the arguments and literature above, social media content can increase customer satisfaction by helping customers achieve a sense of accomplishment and meet their expectations regarding healthy foods.

Wixom and Todd (2005) defined perceived format, relevance, and coverage as the extent to which undergraduates believe YouTube content is presented and formatted well, is suitable, and meets their information needs (Chintalapati & Daruri, 2017), and the available content covers a variety of topics (Lee & Lehto, 2013). Previous research has noted that the richness of YouTube content,

beyond format, can positively impact the intention to use YouTube (Chintalapati & Daruri, 2017; Lee & Lehto, 2013).

H6: Content has a significant impact on satisfaction.

2.7 Satisfaction

The intention and willingness to adopt e-government services depend on the perceived satisfaction of services provided through offline channels because the business user's prior interactions with the government through offline service channels shape their belief, confidence, and satisfaction in the government; this, in turn, translates into the perception of the quality of service provided online (Qutaishat, 2013). We also propose that the business user's adoption decision rests on their satisfaction with internet technology. Their past online experience with the technology (e.g., online purchasing) would influence their perception of the new e-government applications.

H7: Satisfaction has a significant impact on intention to use.

3. Research Methods and Materials

3.1 Research Framework

This study draws upon several foundational theories to frame its investigation. These include Expectation Confirmation Theory (ECT) by Oliver (1980), Information Systems Success (ISS) Theory as defined by DeLone and McLean (2003), the Theory of Planned Behavior (TPB) by Ajzen and Fishbein (1975), Social Cognitive Theory (SCT) by Bandura (1960), and Stimulus-Response Theory by Otto Lerbinger. Building on these theoretical underpinnings, the researcher has developed a conceptual framework to guide the study, which is illustrated in Figure 1.

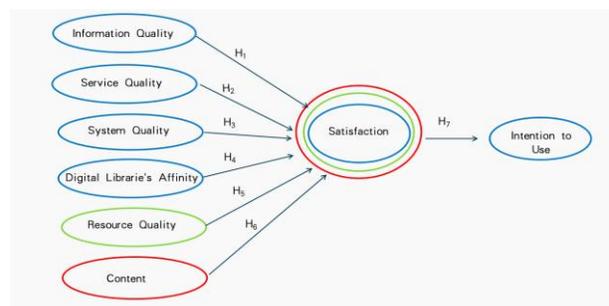


Figure 1: Conceptual Framework

H1: Information quality has a significant impact on satisfaction.

H2: Service quality has a significant impact on satisfaction.

H3: System quality has a significant impact on satisfaction.

H4: Digital libraries' affinity has a significant impact on satisfaction.

H5: Resource quality has a significant impact on satisfaction.

H6: Content has a significant impact on satisfaction

H7: Satisfaction has a significant impact on intention to use.

3.2 Research Methodology

The researcher employed a quantitative method using non-probability sampling to distribute questionnaires to the target population via an online platform (Steffens et al., 2014). The study focused on non-graduating undergraduate students from four majors at Southwestern University of Finance and Economics Tianfu College in Sichuan Province. The feedback data were analyzed to identify factors influencing the satisfaction and usage intentions of digital libraries among these students. The questionnaire was divided into three sections: the first section included screening questions, the second section featured a 5-point Likert scale to measure variables related to the six hypotheses of the study, ranging from (1) strongly disagree to (5) strongly agree, and the third section gathered demographic information, including gender, age, and grade level. Before the large-scale distribution, a pilot test was conducted with 50 respondents, and the questionnaire achieved a satisfactory Item-Objective Consistency Index (IOC) score as assessed by experts.

3.3 Population and Sample Size

The validity and reliability of the questionnaire were assessed using Cronbach's Alpha, and the results confirmed the instrument's robustness (Hartog & Verburg, 2004). The researcher distributed the questionnaires to the target respondents, obtaining a satisfactory response rate with 500 completed surveys. The feedback data were analyzed using statistical tests in SPSS AMOS. Confirmatory Factor Analysis (CFA) was conducted to verify the accuracy and convergence of the data, validating the fit of the conceptual framework and ensuring the model's validity and reliability. Following this, the researcher utilized Structural Equation Modeling (SEM) to explore the causal relationships between the variables.

3.4 Sampling Technique

Utilizing non-probability sampling methods, including judgmental and quota sampling, the researchers selected four primary and secondary schools in economically disadvantaged counties of Yunnan Province, China. Questionnaires were distributed through an online platform. The specific details of the sampling process for this study are outlined in Table 1.

Table 1: Sample Units and Sample Size

Four Main Subject	Population Size	Proportional Sample Size
Accountancy students	297	146
Financial Management students	183	90
Auditing students	157	77
Finance students	380	187
Total	1017	500

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

The demographic information collected from participants included students' gender, major, and frequency of use. We distributed questionnaires to non-graduating students from four major programs at the Southwestern University of Finance and Economics, Tianfu College in Sichuan Province. Of the respondents, there were 248 females (49.6%) and 252 males (50.4%). All of these people have experience using digital libraries. They voluntarily participated in the questionnaire survey of this study. Their feedback data is helpful for this study in utilizing the factors of satisfaction and intention to use digital libraries among students and graduates in Sichuan, China.

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	female	248	49.6%
	male	252	50.4%
Major	Accountancy	146	29.2%
	Financial Management	90	18%
	Auditing	77	15.4%
	Finance	187	37.4%
Digital Library Experience	0	5	1%
	1 time	66	13.2%
	2-3times	140	28%
	3-7times	131	26.2%
	more than 7 times	158	31.6%

4.2 Confirmatory Factor Analysis (CFA)

This study employed Confirmatory Factor Analysis (CFA) to assess each variable within the conceptual framework. The measurement results indicated that all scale items were significant, with factor loading values meeting acceptable criteria. Specifically, all factor loadings exceeded 0.30, all p-values were below 0.05, construct reliabilities were greater than 0.70, and the average variances extracted were above 0.50. These findings support the adequacy of the conceptual framework. Detailed values are presented in Table 3.

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

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Information Quality (IQ)	McKinney et al. (2002)	5	0.859	0.673-0.760	0.851	0.533
Service Quality (SVQ)	Santos (2003)	4	0.847	0.673-0.825	0.848	0.583
System Quality (SQ)	DeLone and McLean (2004)	4	0.817	0.684-0.754	0.819	0.531
DL's Affinity (DLA)	Oberecker et al. (2008)	3	0.782	0.718-0.750	0.783	0.546
Resource Quality (RQ)	Lee et al. (2014)	4	0.848	0.751-0.778	0.849	0.584
Content (CT)	Carter (2002)	4	0.825	0.718-0.776	0.825	0.541
Satisfaction (SA)	Liaw and Huang (2013)	4	0.935	0.865-0.898	0.935	0.783
Intention to use (IU)	Fishbein and Ajzen (1977)	4	0.923	0.848-0.887	0.923	0.750

Table 4 presents the square roots of the average variances extracted, demonstrating that the correlations among all variables in this study are appropriate. The model fit in the Confirmatory Factor Analysis (CFA) was evaluated using several indicators: Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA).

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<3 (Hair et al., 2006)	1.148
GFI	≥0.85 (Sica & Ghisi, 2007)	0.942
AGFI	≥0.8 (Sica & Ghisi, 2007)	0.930
NFI	>0.9 (Arbuckle, 1995; Hair et al., 2006)	0.943
TLI	>0.9 (Hair et al., 2006)	0.991
CFI	>0.9 (Arbuckle, 1995; Hair et al., 2006)	0.992
RMSEA	<0.08 (Pedroso et al., 2016)	0.017
Model Summary		Acceptable Model Fit

Remark: 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, TLI = Tucker Lewis index, CFI = comparative fit index and RMSEA = root mean square error of approximation

Table 5. displays the convergent and discriminant validity for this study, with both values confirming their acceptability. These measurements support the validity of the structural model estimated in the study.

Table 5: Discriminant Validity

	IQ	SVQ	SQ	DLA	RQ	CT	SA	IU
IQ	0.730							
SVQ	0.275	0.764						
SQ	0.294	0.288	0.729					
DLA	0.208	0.275	0.214	0.739				
RQ	0.219	0.244	0.220	0.283	0.764			
CT	0.252	0.243	0.232	0.294	0.249	0.736		
SA	0.381	0.354	0.286	0.317	0.368	0.321	0.885	
IU	0.094	0.192	0.064	0.057	0.139	0.154	0.463	0.866

Note: The diagonally listed value is the AVE square roots of the variables

Source: Created by the author.

4.3 Structural Equation Model (SEM)

Awang (2012) recommended that the Chi-square/degrees-of-freedom (CMIN/DF) ratio for model fit should be less than 5.00, a guideline also endorsed by Al-Mamary and Shamsuddin (2015). Sica and Ghisi (2007) suggested that both the Adjusted Goodness-of-Fit Index (AGFI) and the Normed Fit Index (NFI) should exceed 0.80, while Bentler (1998) recommended that the Comparative Fit Index (CFI) be greater than 0.80. Hair et al. (2006) proposed that the Tucker-Lewis Index (TLI) should be above 0.90, and Hu and Bentler (1999) advised that the Root Mean Square Error of Approximation (RMSEA) should be less than 0.08. Using SPSS AMOS version 26 for Structural Equation Modeling (SEM) calculations, the researchers adjusted the model accordingly. The fit indices for this study indicated a good model fit: CMIN/DF = 1.859, GFI = 0.890, AGFI = 0.872, NFI = 0.903, TLI = 0.948, CFI = 0.952, and RMSEA = 0.041. These values are detailed in Table 6.

Table 6: Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<3 (Hair et al., 2006)	1.859
GFI	≥0.85 (Sica & Ghisi, 2007)	0.890
AGFI	≥0.8 (Sica & Ghisi, 2007)	0.872
NFI	>0.9 (Arbuckle, 1995; Hair et al., 2006)	0.903
TLI	>0.9 (Hair et al., 2006)	0.948
CFI	>0.9 (Arbuckle, 1995; Hair et al., 2006)	0.952
RMSEA	<0.08 (Pedroso et al., 2016)	0.041
Model Summary		Acceptable Model Fit

Remark: 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, TLI = Tucker Lewis index, CFI = comparative fit index and RMSEA = root mean square error of approximation

4.4 Research Hypothesis Testing Result

The significance of the study model was assessed based on the regression weights and R^2 values for each variable. Table 7 displays the results of these calculations. The findings supported all the hypotheses of the study. Specifically, Information Quality had a significant effect on Satisfaction ($\beta = 0.257$), Service Quality also influenced Satisfaction ($\beta = 0.209$), and System Quality impacted Satisfaction ($\beta = 0.089$). Additionally, Digital Libraries' Affinity affected Satisfaction ($\beta = 0.143$), Resource Quality contributed to Satisfaction ($\beta = 0.243$), and Content influenced Satisfaction ($\beta = 0.160$). Furthermore, Satisfaction significantly affected Intention to Use ($\beta = 0.461$).

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-value	Result
H1: IQ→SA	0.257	5.443*	Supported
H2: SVQ→SA	0.209	4.431*	Supported
H3: SQ→SA	0.089	1.897	Not Supported
H4: DLA→SA	0.143	2.956	Not Supported
H5: RQ→SA	0.243	5.133*	Supported
H6: CT→SA	0.160	3.394*	Supported
H7: SA→IU	0.461	9.871*	Supported

Note: *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$

Source: Created by the author

According to the results in Table 7., the researcher concluded that establishing H1 indicated that information quality was one of the key drivers of satisfaction with a criterion coefficient value of 0.257 in its structural path. The establishment of H2 indicated that service quality was one of the key drivers of satisfaction, with a criterion coefficient value of 0.209 in its structural path. The establishment of H3 indicated that system quality was one of the key drivers of satisfaction, with a criterion coefficient value of 0.089 in its structural path. The establishment of H4 indicated that digital libraries' affinity was one of the key drivers of satisfaction, with a criterion coefficient value of 0.143 in its structural path. The establishment of H5 indicated that resource quality was one of the key drivers of satisfaction, with a standard coefficient value of 0.243 in its structural path. The establishment of H6 indicated that content was one of the key drivers of satisfaction, with a standard coefficient value of 0.160 in its structural path. The establishment of H7 indicated that satisfaction was one of the key drivers of intention to use, with a standard coefficient value of 0.461 in its structural path.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

The aim of this study was to analyze the factors affecting the satisfaction and usage intention of graduating university students in Sichuan Province, China, regarding digital libraries. With digital education becoming increasingly prevalent, graduating students often rely on digital libraries for their theses or final projects. These libraries offer access to a broad range of knowledge, enhancing the convenience and efficiency of the learning process and ensuring a more reliable research experience. Therefore, understanding the factors influencing satisfaction and usage intention in this context is crucial.

The study proposed seven hypotheses to explore the relationships among these factors. The target population included graduating students from Tianfu College of Southwestern University of Finance and Economics. Questionnaires were distributed to 500 students across four major disciplines who utilized the digital library. Data analysis supported the conceptual framework of the study, which was informed by existing literature. The framework posited that student satisfaction mediates the relationship between various factors and their intention to use the digital library.

The 500 responses were analyzed using SPSS and JAMOVI, and the conceptual framework was tested with AMOS. Confirmatory Factor Analysis (CFA) verified the suitability of the factor structure and validation model, indicating a good fit (West, 2002). The CFA results confirmed that the conceptual model was valid and reliable, with tests for convergent validity, composite reliability, Cronbach's alpha, factor loadings, and mean variance extraction supporting the framework (Steigenberger, 2015).

Structural Equation Modeling (SEM) revealed that hypotheses related to information quality, service quality, resource quality, and content were supported. However, the hypotheses concerning system quality and digital library affinity were not. Specifically, information quality and service quality had a direct impact on students' satisfaction and an indirect effect on their intention to use the library. In contrast, system quality and digital library affinity did not significantly influence satisfaction or usage intention. For graduating students, factors other than system quality and digital library affinity were more influential in completing their theses and projects.

Moreover, the quality of resources and content had a direct and significant effect on satisfaction, which, in turn, indirectly influenced usage intention. Satisfaction with the library also had a direct impact on usage intention. This study's findings, though moderate, provide valuable insights for the development and optimization of digital libraries,

offering guidance for enhancing digital library services and supporting the continued improvement of resources for graduating students.

5.2 Recommendation

Firstly, this study investigated the factors influencing the satisfaction and usage intention of graduating students with digital libraries. The results indicate that system quality and library affinity do not significantly impact graduating students. Instead, the study highlights and expands on the role of satisfaction in predicting whether graduating students will continue using digital libraries.

Secondly, the study analyzed factors such as information quality, service quality, resource quality, and content. Compared to system quality and library affinity, graduating students place greater importance on these factors. These insights provide valuable information for educators and library service providers, helping them to establish reliable and effective service mechanisms and enhance student satisfaction.

Lastly, it is recommended that graduating students extend their access to free digital library resources. Digital libraries generally have limitations, including restricted access duration. Once graduating students complete their studies, they may no longer have access to relevant resources, leading to lower user retention rates.

5.3 Limitation and Further Study

The limitations of this study lie in the fact that the research variables are confined to the individual level, and the data used to measure these variables were collected during a specific period. These data were provided by graduating students from specific majors. Future research should consider expanding the geographic scope and target population, incorporating similar variables, adopting longitudinal or experimental designs, and collecting data at different times to advance the research.

In the future, digital libraries can achieve resource aggregation, with the primary goal of meeting the needs of both current students and graduates by providing effective resource recommendations. To do this, students need to evaluate the final recommended results and establish a user feedback mechanism. This mechanism would analyze and manage student needs based on semantic mining and recommendation, allowing for the seamless integration of theoretical models and application systems. By doing so, the knowledge service functions of digital libraries can be further enhanced, and the long-term development of this innovative theory of resource aggregation can be promoted.

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