Research Article

EVALUATING THE QUALITY OF LIBRARY SERVICE IN DONG THAP UNIVERSITY

Nguyen Van Canh

Dong Thap University, Vietnam
Corresponding author: Nguyen Van Canh – Email: nvcanh@dthu.edu.vn
Received: April 02, 2020; Revised: April 20, 2020; Accepted: May 28, 2020

ABSTRACT

This article presents the results of evaluating the service quality of library in Dong Thap University, which are based on the feedback of 232 students who are studying at the university and are directly using the library services. By using the Exploratory Factor Analysis method (EFA) and linear regression analysis methods, the study identifies four factors that affect the quality of library service and their impact level, including (1) Facilities of library, (2) Capacity of librarian, (3) Response of library, and (4) Reliability of library. In particular, the two factors that have a strong influence on the quality of library services are the library facilities and the library's responsibility. In addition, the study also points out two observed variables corresponding to two contents of service quality which are meant to explain well to each factor. These are the major factors that greatly affect the quality of library services in Dong Thap University.

Keywords: Dong Thap University; library; quality; service

1. Introduction

At universities, libraries always play a very important role and are considered positive support places for teaching, learning and research activities of lecturers and students. Therefore, improving the service quality of library is one of the important tasks, contributing to enhancing the quality of training. A number of studies have shown a correlation between the quality of library service and students' learning. Specifically, the higher the quality of the university's library service is, the higher the students' learning results are (Alharbi & Middleton, 2012; Onuoha et al., 2013). In the current period, library in universities is not only merely to store books and reference materials but it also needs to provide the best services to students. To fulfill the library's functions, the library needs to be equipped with modern facilities and has qualified staff to serve the users. In addition,

the services of university libraries need to be evaluated by the users (Pedramnia et al., 2012). Along with other universities, Dong Thap University always considers to invest in library as one of the most important tasks and has made significant investments in the library of the university. In order to have data for timely adjustment and improvement, the evaluation of the service quality of library in Dong Thap University through student's feedback is necessary and has an important meaning to contribute for improving the training quality of the university.

2.   Literature review

2.1. *Service quality and customer satisfaction*

2.1.1. *Service quality*

Service quality is the level of difference between users' expectations and their perception about the outcome of service (Parasuraman et al., 1988). According to this understanding, service quality is customer satisfaction measured by the difference between the expected quality and the achieved quality, that is, if the achieved quality is equal or higher than the expected quality then the service quality will be guaranteed. Therefore, the measurement of service quality is usually based on the relationship between customers' expectations and their actual perception about the service (Nguyen, 2005). In universities, the library is considered a source of great knowledge for teachers and students. Traditionally, the library quality is measured by the collection of books and newspapers, the size or capacity of a library, and the statistics about the number of library users (Sahu, 2007). This view ignores the needs of information that library users usually desire. With the trend of library modernization, the library quality is also reflected in the number of digitized electronic documents that help free up storage space and close the geographical distance between libraries and users. A research by Thomson et al. (2002) shows that the service quality of library includes four factors: service capacity, library space, information resources, and access to information. Thus, the quality of library service is to meet the expectations of lecturers and students in the use of library services.

2.1.2. *Customer satisfaction*

Satisfaction is the degree of a person's sense that derived from the comparison of the results obtained from services to his or her expectations. Expectations are interpreted as human expectations. It originates from personal needs, previous experience, and external information such as advertisements, word of mouth information from friends and surrounding people (Kotler & Armstrong, 2010). In addition, customer satisfaction is the result of evaluation based on perception and emotion. At that time, customers feel satisfied if the efficiency they feel is greater than their expectation, and feel dissatisfied if the efficiency they feel is worse than their expectation or normal if the efficiency they feel is in line with their expectation (Ojo, 2010). Thus, it can be understood that the student's

satisfaction with the service quality of library is the psychological state of students when they use library services that meet their expectations.

2.1.3. SERVPERF model of the service quality

SERVPERF model was introduced by Taylor and colleagues to measure service quality (Cronin & Taylor, 1992). According to the SERVPERF model, service quality is the level of customer perception. This conclusion has been concurred by some other authors (Brady et al., 2001). The factors are used to measure the quality of service in the SERVPERF model, which are shown in Figure 1.
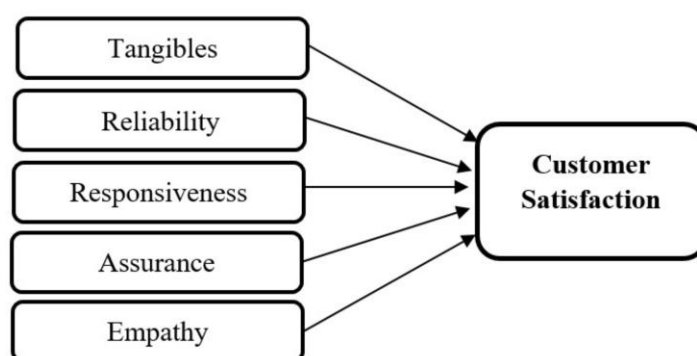
Figure 1. SERVPERF model of the service quality

Specific explanation:

(1) Tangibles expressed through appearance, staff attire, equipment and facilities for the service.

(2) Reliability is expressed through ability to deliver the accordant services and on time right the first time.

(3) Responsiveness is expressed through the desire and willingness of service staff to provide timely service to customers.

(4) Assurance is expressed through professional level and how to serve warmly to customers.

(5) Empathy is expressed through care and care to each individual customer.

In this paper, the SERVPERF model was applied to measure the service quality of library in Dong Thap University.

3. Research results and discussion

3.1. Characteristics of the sample

This study was conducted with 300 students studying at Dong Thap University answering an online survey. After removing the results from the students who anwered one level of satisfaction for all survey contents, 232 student responses were retained. In

particular, 62 (26.7%) first year students; 57 second year students (24.6%); 50 third year students (21.6%); 63 fourth year students (27.2%) joined the study. The research sample has a relatively even proportion from the freshman to the seniors. This will help to evaluate the quality of library service more accurately.

3.2. The scale of service quality of library in Dong Thap University

The scale of service quality of library in Dong Thap University includes 5 components with 19 observed variables corresponding to 19 contents about the service quality of the library. Each observed variable is designed in four levels from 1 to 4 corresponding to the levels of agreement from disagree, partially agree, agree, and strongly agree. The content of observed variables in the scale is shown in Table 1.

Table 1. The scale of the service quality of the library in Dong Thap University

Variables	Content
V1	The number of books and reference materials in the borrowing room is sufficient.
V2	The number of books and reference materials in the reading room is sufficient.
V3	The library's searching system is convenient and useful.
V4	The computer system at the library meets the students' expectations.
V5	Tables and chairs for readers at the library are modern and are arranged scientifically.
V6	The space of the function rooms at the library is always comfortable.
V7	Books and reference materials are arranged systematically.
V8	The process of borrowing books from the library is simple and quick.
V9	The number of books borrowed each time meet the student's needs.
V10	Librarians have professional skills.
V11	Librarians are courteous.
V12	Librarians always support students with dedication and enthusiasm.
V13	Librarians care about students' need for support.
V14	Librarians care about students' benefits.
V15	Librarians are ready to help and support students.
V16	Librarians are always on time.
V17	Librarians do not make any error during serving students.
V18	Librarians always follow what they promised.
V19	Librarians always fully support the needs of students.

The service quality of the library in Dong Thap University is based on SERVPERF scale including five components such as facilities, responsiveness, staff capacity, sympathy, and the reliability of library. These are important factors that greatly affect the quality of library service in the university.

3.3. The reliability of the scale

The reliability of the scale is assessed through two techniques including (1)

calculating Cronbach's Alpha reliability coefficient and (2) analyzing Exploratory Factor (EFA). Firstly, Cronbach's Alpha coefficients were used to eliminate inappropriate variables. Specifically, variables with corrected item - total correlation coefficient are less than 0.30 will be rejected, and the scale will be accepted when the value of Cronbach's Alpha reaches 0.60 or higher (Hoang, 2008).

The Crobach's Alpha value of the scale is 0.943, which shows that the scale is very reliable. In addition, the corrected item - total correlation coefficient of observed variables from 0.479 to 0.795, which are all higher than 0.30 and the value of Cronbach's Alpha when item deletes observed variables from 0.937 to 0.943 which are all less than Cronbach's Alpha value of the scale (0.943). Therefore, there is no need to remove any observed variables from the scale.

The second, by the exploratory factor analysis method, the observed variables which do not focus on any factor will be excluded. In addition, the scale is accepted when the value of the explained total variance is equal to or greater than 50% (Isleem, 2003). The result of KMO and Bartlett's test is shown in Table 2.

Table 2. KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.936
Bartlett's Test of Sphericity	Approx. Chi-Square	3406.293
	df	171
	Sig.	0.000

The result of KMO and Bartlett's test have KMO = 0.936, which satisfies the condition $0.5 \leq KMO \leq 1$. Bartlett's test has Sig. = 0.000 < 0.05 shows that the observed variables are correlated with the representative factors. In addition, the value of the total variance explained is 69.3%, greater than 50%, which means that 69.3% of the variation of factors is explained by the observed variables in each factor, and exploratory factor analysis model is accepted.

The results of the EFA show that the observed variables converged to four factors (Table 3).

Table 3. Rotated Component Matrix

Variables	Component			
	1	**2**	**3**	**4**
V15	0.857			
V12	0.857			
V14	0.852			

| Variables	Component			
	1	**2**	**3**	**4**
V13	0.850			
C11	0.833			
V10	0.731			
V19				0.820
V16				0.796
V18				0.788
V17				0.782
V2		0.789		
V1		0.787		
V3		0.713		
V9		0.637		
V5			0.812	
V6			0.790	
V7			0.618	
V8			0.549	
V4			0.537	

Based on the content of observed variables converged on each factor, the names of the factors were reset (Table 4).

Table 4. The new factors

Component	Observed variables
X1 – Capacity of the librarian	V10, V11, V12, V13, V14, V15
X2 – Facilities of the library	V1, V2, V3, V5
X3 – The response of the library	V4, V6, V7, V8, V9
X4 – The reliability of the library	V16, V17, V18, V19

3.4. Evaluation model of the service quality of the library in Dong Thap University

Based on the representative factors formed from the results of the EFA, the evaluation model of the service quality of the library in Dong Thap University is defined in Figure 2.
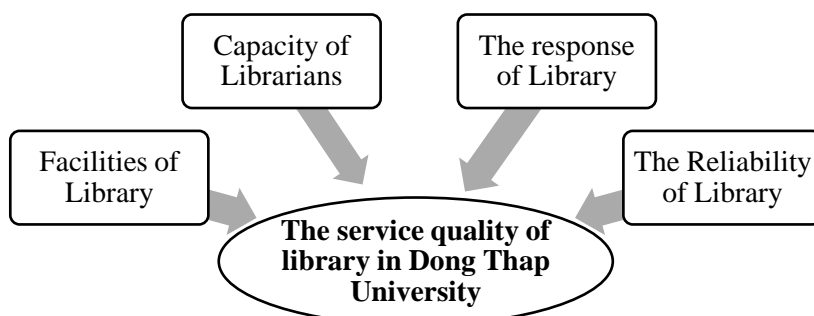
Figure 2. The *evaluation model*
of the service quality of the library in Dong Thap University

3.5. *Linear regression analysis*

To perform linear regression analysis, it is necessary to ensure that the dependent variables and the independent variables are linearly correlated. The results of the linear correlation analysis between dependent variable Y and independent variables X1, X2, X3 X4 are shown in Table 5.

Table 5. Correlations

		Y	**X1**	**X2**	**X3**	**X4**
Y	Pearson Correlation	1	0.745^{**}	0.773^{**}	0.833^{**}	0.752^{**}
	Sig. (2-tailed)		**0.000**	**0.000**	**0.000**	**0.000**
	N	232	232	232	232	232
X1	Pearson Correlation	0.745^{**}	1	0.435^{**}	0.590^{**}	0.845^{**}
	Sig. (2-tailed)	0.000		0.000	0.000	0.000
	N	232	232	232	232	232
X2	Pearson Correlation	0.773^{**}	0.435^{**}	1	0.737^{**}	0.435^{**}
	Sig. (2-tailed)	0.000	0.000		0.000	0.000
	N	232	232	232	232	232
X3	Pearson Correlation	0.833^{**}	0.590^{**}	0.737^{**}	1	0.604^{**}
	Sig. (2-tailed)	0.000	0.000	0.000		0.000
	N	232	232	232	232	232
X4	Pearson Correlation	0.752^{**}	0.845^{**}	0.435^{**}	0.604^{**}	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	
	N	232	232	232	232	232

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

The results of correlation analysis (at the first row in Table 5) show the Sig. values are all equal to 0.000, less than 0.01. This means that the dependent variable Y and the independent variables X1, X2, X3, and X4 are all statistically significant correlated with 99% confidence. Thus, the condition for conducting linear regression analysis was met.

Concordance of data to the regression model is shown through ANOVA variance analysis results in Table 6.

***Table 6.** ANOVA[a]*

	Model	Sum of Squares	df	Mean Square	F	Sig.
	Regression	47.892	4	11.973	353.525	0.000[b]
1	Residual	7.688	227	0.034		
	Total	55.579	231			

a. Dependent Variable: Y

b. Predictors: (Constant), X4, X2, X3, X1

Statistical results in Table 6 has Sig. = 0.000 less than 0.05 shows that the linear regression model fits the data.

The explanation level of independent variables on the dependent variable is shown in Table 7.

***Table 7.** Model Summary[b]*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.928[a]	0.862	0.859	0.18403

a. Predictors: (Constant), X4, X2, X3, X1

b. Dependent Variable: Y

The statistical results in Table 7 show that value of Adjusted R Square equal to 0.859. This means that 85.9% of the variation in Y- dependent variable is explained by independent variables X1, X2, X3, and X4.

The result of regression coefficient test is shown in Table 8.

***Table 8.** Coefficients[a]*

		Model				
		1				
		(Constant)	X1	X2	X3	X4
Unstandardized Coefficients	B	0.027	0.169	0.329	0.302	0.190
	Std. Error	0.083	0.037	0.034	0.041	0.039
Standardized Coefficients	Beta		0.215	0.353	0.305	0.232
	t		0.328	4.578	9.662	7.344	4.859
	Sig.	0.743	0.000	0.000	0.000	0.000
Collinearity Statistics	Tolerance		0.275	0.457	0.352	0.268
	VIF		3.634	2.189	2.839	3.732

a. Dependent Variable: Y

The statistical results in Table 8 shows that independent variables X1, X2, X3, and X4 are all significantly correlated with the dependent variable Y with 99% of confidence because the Sig. values are all equal to 0.000 less than 0.01.

In addition, the VIF value of the independent variables are all less than 10, indicating no multicollinearity phenomenon between independent variables. The linear regression model is established as follows:

$$Y = 0,27 + 0,169X_1 + 0,329X_2 + 0,302X_3 + 0,190X_4$$

The regression model shows that independent variables X1, X2, X3, and X4 are all positively correlated with dependent variable because B values in the regression coefficient test are positive. That is, if the student's satisfaction with each representative factor increases, the student's satisfaction with the service quality of the library will also increase and vice versa. In addition, the value of B in the test result also indicates the degree of influence of each independent variable on the dependent variable. Specifically, B value of the variable X1 (Capacity of Librarians) is 0.169 which means that when the student's satisfaction with Librarians' capacity increases to 1%, student's satisfaction with the library's service quality increase to 0.169%. Similarly, the variable X2 (Facilities of Library) with B value is 0.332; X3 variable (Response of Library) with B value is 0.302; X4 variable (Reliability of Library) with value B is 0.190. Thus, it can be seen that among the four independent variables, two variables X2 (Facilities of Library) and X3 (The Response of Library) have influence on the dependent variable stronger than the two variables X1 (Capacity of Librarian) and variable X4 (The Reliability of Library). This means that the library's service quality is greatly influenced by the library facilities and the library's response to the needs of students.

To consider the influence of each observed variable in each factor, a stepwise regression analysis for each factor was conducted (Table 9).

Table 9. Regression model for Capacity of Librarian factor

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.917[a]	0.841	0.840	0.25060
2	0.965[b]	0.932	0.931	0.16434
3	0.983[c]	0.967	0.966	0.11535
4	0.990[d]	0.980	0.980	0.08905
5	0.996[e]	0.992	0.992	0.05769
6	1.000[f]	1.000	1.000	0.00000

a. Predictors: (Constant), V12

b. Predictors: (Constant), V12, V14

c. Predictors: (Constant), V12, V14, V11

d. Predictors: (Constant), V12, V14, V11, V10

e. Predictors: (Constant), V12, V14, V11, V10, V15

f. Predictors: (Constant), V12, V14, V11, V10, V15, V13

g. Dependent Variable: X1

In the regression models of the Librarian's capacity factor, two regression models that have a good explanation for the representative factor are Model 1 which includes V12 variable, explaining 84% of the representative factors (Adjusted R Square is 0.840) and Model 2 which consists of two variables V12 and V14, explaining 93.1% of the representative factors (Adjusted R Square is 0.931). The other variables of this factor all contribute to the representative factor, but the contribution level is lower than the two variables mentioned.

The result of stepwise regression analysis for Facilities of Library factor is shown in Table 10.

Table 10. *Regression model for Facilities of Library factor*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.836[a]	0.699	0.697	0.28950
2	0.926[b]	0.857	0.856	0.19953
3	0.975[c]	0.952	0.951	0.11655
4	1.000[d]	1.000	1.000	0.00000

a. Predictors: (Constant), V1

b. Predictors: (Constant), V1, V5

c. Predictors: (Constant), V1, V5, V3

d. Predictors: (Constant), V1, V5, V3, V2

e. Dependent Variable: X2

In the regression models of the Facilities of Library factor, two regression models that have a good explanation for the representative factor are Model 1 which includes V1 variable, explaining 69.7% of the representative factors (Adjusted R Square is 0.697) and Model 2 which consists of two variables V1 and V5, explaining 85.6% of the representative factors (Adjusted R Square is 0.856). The other variables of this factor all contribute to the representative factor, but the contribution level is lower than the two variables mentioned.

The Result of stepwise regression analysis for Response of Library factor is shown in Table 11.

Table 11. Regression model for Response of Library factor

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.813[a]	0.660	0.659	0.29010
2	0.901[b]	0.812	0.810	0.21652
3	0.951[c]	0.904	0.903	0.15484
4	0.983[d]	0.967	0.966	0.09099
5	1.000[e]	1.000	1.000	0.00000

a. Predictors: (Constant), V7

b. Predictors: (Constant), V7, V9

c. Predictors: (Constant), V7, V9, V4

d. Predictors: (Constant), V7, V9, V4, V8

e. Predictors: (Constant), V7, V9, V4, V8, V6

f. Dependent Variable: X3

In the regression models of Library's Response factor, two regression models that have a good explanation for the representative factor are Model 1 which includes V7 variable explain 69.7% of the representative factors (Adjusted R Square is 0.697) and Model 2 which consists of two variables V1 and C5, explaining 85.6% of the representative factors (Adjusted R Square is 0.856). The other variables of this factor all contribute to the representative factor, but the contribution level is lower than the two variables mentioned.

The result of stepwise regression analysis for Reliability of Library factor is shown in Table 12.

Table 12. Regression model for The Reliability of Library

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.920[a]	0.847	0.846	0.23444
2	0.971[b]	0.942	0.942	0.14414
3	0.989[c]	0.977	0.977	0.09088
4	1.000[d]	1.000	1.000	0.00000

a. Predictors: (Constant), V18

b. Predictors: (Constant), V18, V17

c. Predictors: (Constant), V18, V17, V16

d. Predictors: (Constant), V18, V17, V16, V19

e. Dependent Variable: X4

In the regression models of Library's Reliability factor, two regression models that have a good explanation for the representative factor are Model 1 which includes V18 variable, explaining 84.6% of the representative factors (Adjusted R Square is 0.846) and Model 2 which consists of two variables V18 and V17, explaining 94.2% of the representative factors (Adjusted R Square is 0.942). The other variables of this factor all

contribute to the representative factor, but the contribution level is lower than the two variables mentioned.

4.   Conclusion

Using the Exploratory Factor Analysis method, the study has identified four factors that affect the service quality of the library in Dong Thap University, including (1) Facilities of Library, (2) Capacity of Librarians, (3) Response of Library, and (4) Reliability of Library. In addition, by linear regression analysis method, the research shows the influence of each factor on the quality of library service. In particular, two factors that have a strong influence on the quality of the library services are the Library facilities and the Library Responsibility. In addition, in each factor, the study also points out the two observed variables that are meant to explain well to the representative factor. Those are the variables V12 - Librarians always support students with dedication and enthusiasm and V14 - Librarians care about students' benefits for Capacity of the librarians; variables V1 - The number of books and reference materials in the borrowing room is sufficient, V5 - Tables and chairs for readers at the library are modern, and arranged scientifically for Facilities of Library factor; variables V7 - Books and reference materials are arranged systematically, V9 - The number of books allows to be borrowed each time meets the student's needs for Response of Library factor; variable V18 - Librarians always follow what they promised, V17 - Librarians do not make any error during serving students for Reliability of Library factor. These are the major factors that greatly affect the service quality of the library. Therefore, in order to improve the quality of services, the library of Dong Thap University needs to pay attention to these factors to bring the best quality of service.

❖ *Conflict of Interest: Author have no conflict of interest to declare.*

REFERENCES

Alharbi, A., & Middleton, M. (2012). The relationship between academic library usage and educational performance in Kuwait. *Library Management*.

Brady, M. K., Cronin Jr, J. J., & Brand, R. R. (2002). Performance-only measurement of service quality: a replication and extension. *Journal of business research*, *55*(1), 17-31.

Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: a reexamination and extension. *Journal of marketing*, *56*(3), 55-68.

Hoang, T., & Chu, N. M. N. (2008). *Phan tich du lieu nghien cuu voi SPSS* [*Analyze research data with SPSS*]. Hanoi: Hong Duc Publishing House.

Isleem, M. I. (2003). *Relationships of selected factors and the level of computer use for* instructional *purposes by technology education teachers in Ohio public schools: a statewide survey* (Doctoral dissertation, The Ohio State University).

Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Pearson education.

Lee, J. & Feick, L. (2001). The Impact of Switching Cost on the Customer Satisfaction Loyalty Link: Mobile phone Service in France. *Journal of Service Marketing*, *15*(1), 35-48.

Nguyen, D. P. (2005). *Quan li chat luong trong cac to chuc* [*Quality management in organizations*]. Hanoi: Labour and Social Publishing House.

Ojo, O. (2010). The relationship between service quality and customer satisfaction in the telecommunication industry: Evidence from Nigeria. *BRAND. Broad Research in Accounting, Negotiation, and Distribution*, *1*(1), 88-100.

Onuoha, U. D., Ikonne, C. N., & Madukoma, E. (2013). Perceived impact of library use on the research productivity of postgraduate students at Babcock University, Nigeria. *Journal of Research and Method in Education*, *1*(1), 11-16.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple-item scale *for* measuring consumer perc. *Journal of retailing*, *64*(1), 12-40.

Pedramnia, S., Modiramani, P., & Ghanbarabadi, V. G. (2012). An analysis of service *quality* in academic libraries using LibQUAL scale. *Library Management*.

Sahu, A. K. (2007). Measuring service quality in an academic library: An Indian case *study*. *Library review*.

Thompson, B., Cook, C., & Thompson, R. L. (2002). Reliability and structure of *LibQUAL+* scores: Measuring perceived library service quality. *portal: Libraries and the Academy*, *2*(1), 3-12.

ĐÁNH GIÁ CHẤT LƯỢNG DỊCH VỤ
CỦA THƯ VIỆN TRƯỜNG ĐẠI HỌC ĐỒNG THÁP

Nguyễn Văn Cảnh

Trường Đại học Đồng Tháp, Việt Nam
Tác giả liên hệ: Nguyễn Văn Cảnh – Email: nvcanh@dthu.edu.vn

TÓM TẮT

Bài viết trình bày kết quả đánh giá chất lượng dịch vụ của thư viện Trường Đại học Đồng Tháp dựa trên phản hồi của 232 sinh viên đang học tập tại trường và trực tiếp sử dụng dịch vụ của thư viện. Bằng phương pháp phân tích nhân tố khám phá EFA và các phương pháp phân tích hồi quy tuyến tính, nghiên cứu đã chỉ ra bốn nhân tố có ảnh hưởng đến chất lượng dịch vụ của thư viện và mức độ ảnh hưởng của các nhân tố đó, bao gồm: (1) Cơ sở vật chất, (2) Năng lực của đội ngũ nhân viên, (3) Sự đáp ứng của thư viện và (4) Sự tin cậy của thư viện. Trong đó, hai nhân tố có ảnh hưởng mạnh đến chất lượng dịch vụ của thư viện là cơ sở vật chất và sự đáp ứng của thư viện. Bên cạnh đó, nghiên cứu cũng đã chỉ ra hai biến quan sát tương ứng với hai nội dung về chất lượng dịch vụ có ý nghĩa giải thích tốt cho mỗi nhân tố. Đây là những yếu tố quan trọng, có ảnh hưởng lớn đến chất lượng dịch vụ của thư viện Trường Đại học Đồng Tháp.

Từ khóa: Đại học Đồng Tháp; thư viện; chất lượng; dịch vụ