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Research on the Construction of Quality Evaluation Scale of Sharing Economy App Service

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ABSTRACT:*With the sharing economy apps such as "shared bicycles", "shared finance", "shared housing", and "shared charging point", which are constantly favored by the public, the service quality of sharing economy app has become an important factor for users to adopt or not. This paper aims to establish a set of scientific sharing economy app service quality evaluation scale, which can provide theoretical reference for the accurate service of sharing economy app and improving service quality. Based on relevant interviews and research literature, a rating scale for service quality of app for sharing economy was initially constructed, and scales were developed using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) methods. The analysis of sample data shows that the reliability and validity of the scale are good, and finally a service quality appraisal scale of sharing economy app including user experience, platform function, resource supply end and credit supervision is built. It involves 23 indicators and 28 questions.*
KEY WORD*:Sharing Economy App, Service Quality,Appraisal Scale, EFA, CFA*

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I. INTRODUCTION

In recent years, with the rapid development of technologies such as mobile Internet, LBS positioning, big data mining, and cloud computing, the rise of third-party payments, and the era of idle resources, the rapid development of China's sharing economy, various sharing economy apps born and penetrated into all walks of life. IResearch's data shows that 77 of the average 100 people used the sharing economy app platform in 2019[1-2]. "Sharing bike", "sharing finance", "sharing housing", "sharing charging treasure" and other sharing economy apps have entered the life of the public and are continuously favored by the public. The most important category of China's sharing economy industry is the rental right model, such as travel, finance, space, and item sharing [2]. The sharing economy as a service-oriented economy, the evaluation of service quality is the basis of the development of the sharing economy. The service quality of the sharing economy app has become an important factor for users to adopt or not, which requires app developers and managers to analyse users' needs from the perspective of users and improve user satisfaction.

On the whole, various forms of sharing economy apps under the category of rental right of use have gradually changed their development mode to the form of "idle + value + return". Their characteristics have been converged, and their differentiation has decreased. It is necessary to evaluate the universality of sharing economy apps from an overall perspective. Therefore, this paper takes various sharing economy apps under the category of rental right of use as research objects, and constructs the sharing economy app service quality scale from the perspective of users' perception of app service quality. This paper builds a service quality evaluation scale for sharing economy apps, which can provide theoretical reference for sharing economy apps to provide accurate service and improve service quality.

II. STUDY DESIGN AND PRELIMINARY SCALE CONSTRUCTION

In the "user-centric" Internet domain, scholars have gradually recognized the importance of service quality to the use of the system. However, in the evaluation of service quality, researchers pay more attention to mature Internet sites and e-government websites, but they do not pay enough attention to some specific fields, such as the sharing economy, and there is no mature scale to measure the service quality of sharing economy apps. Therefore, based on SERVPERF service quality evaluation model[3] and combined with the characteristics of the sharing economy, this paper constructed service quality evaluation scales for various sharing economy apps under the category of rental right of use.

The article mainly adopts the methods of interview and literature research to determine the initial indicators of the appraisal scale of service quality of the sharing economy app from the perspective of user perception. Ye Hanqing [4] summarized the characteristics of the sharing economy. He believed that the main factors of sharing economy include sharing platform, resource supply side, resource demand side and user experience. According to the survey of existing sharing economy apps, it is found that the resource demand side

is the users themselves. For comprehensive reference, this article takes the sharing platform, user experience, and sharing economy app resource supply side as the three main dimensions of the evaluation scale.

According to the SERVPREF service quality model, extract the "reliability" and "empathy" indicators, combined with the sharing economy's use of third-party payment, real-time tracking of geographic location and other characteristics, extract "third-party payment" "geographic information service" and other indicators; Based on the user perception of the service quality of the sharing economy app in the interview, "convenient use", "humanization", "personalization" and "low price", combined with Huang Wei[5] and Yang Xuemei[6], Gao Zhicheng [7] proposed mobile app user experience index evaluation system, extracting "convenience" "stability""responsiveness""responsiveness" and other indicators; According to the sharing economy's copyright and trust issues, extracting "legal qualifications" "reliability" and other indicators. Twenty-six evaluation indicators of the sharing economy app service quality evaluation scale were preliminarily developed, as shown in **Table 1**.

The initial evaluation scale is relatively rough through reading literature and interviews, so exploratory factor analysis(EFA) is used to test the content validity of the initial scale, to analyse the internal relationship between indicators and whether there is a correlation between indicators and common factors, and then use the results to perform confirmatory factor analysis(CFA) and verify the structural validity of the adjusted evaluation scale. Wu Minglong[3] pointed out that when conducting factor analysis, researchers usually divide the number of samples into two, and use the EFA method to generate factor structures with half of the samples. The other half of the samples use CFA method to formally compare the models. Therefore, this article randomly extracts half of the sample data for EFA, then uses the remaining half of the data for CFA, and finally combines the two analysis results and the actual situation to modify the adjusted scale to obtain the final scale.

This research adopts the form of questionnaire, which includes two parts : (1) Basic information of users, including gender, occupation, education, whether they have used sharing economy apps, how long they have been exposed to sharing economy apps, and how often they use the services of sharing economy apps. (2) The measurement of the service quality of the sharing economy apps requires users to rate whether the sharing economy apps should have the function according to their own consumption experience of using the sharing economy apps. This questionnaire uses Likert 5 subscales, the scale uses 1-5 to indicate "strongly disagree", "disagree", "general", "agree", "strongly agree". Since some indicators are explained from multiple angles, this section consists of 33 items.

Table 1: Interpretation and Source of the Initial Scale of Service Quality of Sharing Economy App

Dimension	Indicatorcoding	Indicator	Interpretation	Source
Sharing Platform	SP1	Thirdparty payment	When users use the sharing economy app to purchase products, will the app provide third-party payment (such as Alipay and WeChat)?	Literature[8] [9], interview
	SP2	Payment security	Whether the user's online payment is safe and whether the app can protect the user's purchase information	Literature [8] [10], interview
	SP3	Information leakage	Whether the app will disclose user information	Literature[10], interview
	SP4	Risk monitoring	When there is a conflict between the two parties, whether the platform has established standards to distinguish the responsibilities of the two parties and the platform, and protect the legitimate rights and interests of users	Literature[10]
	SP5	Comment reliability	Whether the information reviewed by users in the app is true and reliable	Literature[10] [11]
	SP6	Geographic information service	Whether the app can track the geographic location in real time and effectively	Literature[10] [12]
	SP7	Credit information	Does the app require real-name authentication and complete information	Literature [9] [10], interview
	SP8	Credit supervision	Whether the app has established a suitable regulatory system and established a threshold for entry	
	SP9	Information symmetry	Whether the information on both sides of the transaction on the shared platform is symmetrical	Literature[11] [13]
	SP10.1	Empathy	Whether the platform can understand and respect the wishes of users	Literature[12]
	SP10.2		Whether the platform can put the interests of users first	
	SP10.3		Whether the platform is willing to adopt the good opinions of users	
User Experience	UE1.1	Convenience	Whether users can easily and quickly have services	Literature [4] [8][10], interview
	UE1.2		Is it convenient for users to operate the app	
	UE2	Stability	Whether the application is stuck or flashing back	Literature [5]
	UE3.1	Timeliness	Whether the app updates the product usage information timely	Literature [5] [14]
	UE3.2		Whether the app has a delay in collecting the deposit or	

			refunding the balance	
	UE4	Responsiveness	Whether the user needs to wait (register, log in, start) when operating the app	Literature [7]
	UE5.1	Ease of use	Is the interface of the sharing economy app easy to understand and whether navigation can make the operation clearer	Literature [5][6][7]
	UE5.2		Is it easy to control when users operate the sharing economy app	
	UE6.1	Usefulness	Content quality: Can the content of the appeffectively meet user needs	Literature [5][14]
	UE6.2		Functional Effectiveness: Can the app's functions meet user needs	
	UE7	Humanization	Whether the app has a reasonable layout and has a humanized design	Literature[14], interview
	UE8.1	Individuation	Whether users can find products that meet their personal needs through the platform	Literature [4][10], interview
	UE8.2		Whether the app will push the personalized service dedicated to the user according to the situation of frequent use on the resource demand side	
	UE9	Perceived cost advantage	Whether users buy services through the app platform is much cheaper than buying resources directly	Literature [4][8], interview
	UE10	Perceived satisfaction	User satisfaction with the service process	Literature [8], interview
Sharing Economy APP Resource Supply Side	RS1	Legal qualification	Whether the resource supply side has legal copyright and ownership of idle resources	Literature [8][11]
	RS2	Reliability	Whether the information provided by the resource provider is reliable	Literature [8]
	RS3	Maximize use	Can the resource supply side maximize the use of idle resources and obtain the income and sense of achievement that they want	Literature [10], interview
	RS4	Facility integrity	Whether the facilities provided by the resource supply side are kept intact	Literature [5][12], interview
	RS5	Information feedback	After the user purchases the product, can the resource supplier receive information feedback in time	Literature [5][14]
	RS6	Use security	Whether the items provided by the resource provider provide security	Literature [4]

III. EMPOROCAL RESEARCH

3.1 Data Collection and Preprocessing

The questionnaire was released from October 14 to November 15, 2019 to users who have used the sharing economy apps. A total of 582 questionnaires were collected this time, and 486 valid questionnaires were obtained after excluding users who had not used the sharing economy apps, with an effective recovery rate of 83.5%. The overall Cronbach α coefficient of the survey questionnaire is 0.951>0.9, indicating that the overall questionnaire has good reliability and is suitable for factor analysis. The sample survey of the survey questionnaire is shown in **Table 2**. From the sample structure, the gender ratio is balanced; in terms of academic qualifications, mainly undergraduates; in terms of occupations, mainly students; other academic qualifications and occupations are involved in a certain proportion. The overall structure of the sample is reasonable and representative.

Table 2:Sample Survey of Survey Questionnaire

Basic Item	Options	Frequency	Percentage	Basic Item	Options	Frequency	Percentage
Gender	male	227	46.7%	**Usage Frequency**	rarely use	77	15.8%
	female	259	53.3%		occasional use	221	45.5%
Education	High school and below	18	3.7%		1-2 times per month	85	17.5%
	college	37	7.6%		1-3 times a week	61	12.6%
	undergraduate	390	80.3%		used almost daily	42	8.6%
	master's degree	37	7.6%	**Occupation**	student	300	61.8%
	PhD and above	4	0.8%		party and government institutions	66	13.6%
Contact Time	under 1 week	28	5.8%		enterprise/company	92	18.9%
	under 1 month	28	5.8%		freelancers	18	3.7%
	1-3 months	28	5.8%		rural migrant workers	4	0.8%
	3-6 months	35	7.2%		agriculture, forestry, animal husbandry	2	0.4%

					and fishing workers		
	half a year to 1 year	77	15.8%		retirement	2	0.4%
	more than 1 year	290	59.6%		unemployed/laid-off/unemployed	2	0.4%

3.2 Exploratory Factor Analysis

243 samples were randomly selected from 486 sample data for exploratory factor analysis. The Cronbach α coefficient of the initial scale is 0.966>0.9, and the KMO value is 0.958>0.9, which indicates that it is very suitable for factor analysis. Bartlett's sphericity test value was 5274.241 (degree of freedom 561), significance Sig.=0.000 < 0.005, which passed the significance test. Therefore, the initial scale is very suitable for factor analysis. The extraction of the common factors of the initial scale adopts the principal component analysis method, and the maximum variance method is used to perform factor rotation on the common factor load matrix. The Kaiser-normalized orthogonal rotation converges after 11 iterations of rotation. Items with factor loads <0.4 are deleted from the component matrix after rotation to obtain the rotated component matrix as shown in **Table 3**.

Table 3:Rotated Component Matrix

Variable	Components			
	1	2	3	4
UE8.1	0.699			
UE7	0.694	0.400		
UE10	0.684			
UE8.2	0.679			
UE6.1	0.670			
UE5.2	0.607			
UE6.2	0.587		0.416	
UE9	0.573	0.401		
UE5.1	0.527	0.491		
UE3.1	0.474	0.455		
SP10.2		0.774		
UE2		0.727		
SP10.3		0.681		
UE4		0.618		
SP3		0.610		0.468
UE3.2		0.568		
SP10.1	0.514	0.539		
UE1.1	0.493	0.527		
RS2			0.806	
RS4			0.735	
RS6		0.401	0.646	
RS1			0.618	
RS3	0.448		0.574	
RS5			0.463	
SP9				0.712
SP8		0.497		0.650
SP5				0.623
SP4		0.406		0.591
SP7				0.531
SP1	0.477			0.498

Extraction method: principal component analysis. Rotation method: Kaiser standardized maximum variance method.
a. The rotation has converged after 11 iterations.

It can be seen from Table 3 that through exploratory factor analysis, the remaining 30 items converge into 4 common factors. Common factors 1 include UE3.1, UE5.2, UE5.2, UE6.1, UE6.2, UE7, UE8.1, UE8.2, UE9, UE10, mainly for timeliness, ease of use, personalization, user-friendly and other user experience development, it is named as user experience. Common factors 2 include SP10.1, SP10.2, SP10.3, SP3, UE1.1, UE2, UE3.2, UE4, mainly elaborating the functions of the sharing platform : Whether the app will disclose user information; Whether there is a lag or flash back in the app; Whether the refund of funds is timely; Whether it needs to wait during operation, etc. It is named as platform function. Common factor 3 include RS1, RS2, RS3, RS4, RS5, RS6, mainly aimed at whether the information provided by resource providers is reliable, whether the provided facilities are complete, and whether the provided items are safe and secure. It is named as the sharing economy app resource supply side. Common factor 4 include SP1, SP4, SP5, SP7 .1, SP7.2, SP8, mainly around credit supervision, involving platform responsibility, the authenticity of information, supervision system, etc., it is named as credit supervision. The original measurement scale was modified by referring to the results of exploratory factor analysis, and the indicators were recoded. The encoding results are shown in **Table 4**.

Table 4:Adjusted Service Quality Evaluation Scale for Sharing Economy App

Dimension	Indicatorscoding	Indicator
User Experience	UE1	Timeliness
	UE2.1	Ease of use
	UE2.2	
	UE3.1	Usefulness
	UE3.2	
	UE4	Humanization
	UE5.1	Individuation
	UE5.2	
	UE6	Perceived cost advantage
	UE7	Perceived satisfaction
Platform Function	PF1.1	Empathy
	PF1.2	
	PF1.3	
	PF2	Information leakage
	PF3	Convenience
	PF4	Stability
	PF5	Fund management
	PF6	Responsiveness
Sharing Economy App Resource Supply Side	RS1	Legal qualification
	RS2	Reliability
	RS3	Maximize use
	RS4	Facility integrity
	RS5	Information feedback
	RS6	Use security
Credit Supervision	CS1	Third party payment
	CS2	Risk monitoring
	CS3	Comment reliability
	CS4	Credit information
	CS5	Regulatory system
	CS6	Information symmetry

3.3 Confirmatory Factor Analysis

The remaining 243 questionnaire data were used to verify the structural validity of the evaluation scale, and the AMOS24.0 tool was used to perform verification factor analysis. In the Amos Graphic interface, draw 4 potential variables (user experience, platform functions, sharing economy app resource supply side, and credit supervision), 30 observation variables (30 items in the questionnaire) and 30 residual variables. The normalized estimated value model diagram calculated by AMOS is shown in **Figure 1**. The summary table of significance test between each index and its corresponding dimension estimated by using the maximum likelihood estimation method is shown in **Table 5**.

Figure 1:Confirmatory Factor Analysis Standardized Estimate Model Diagram

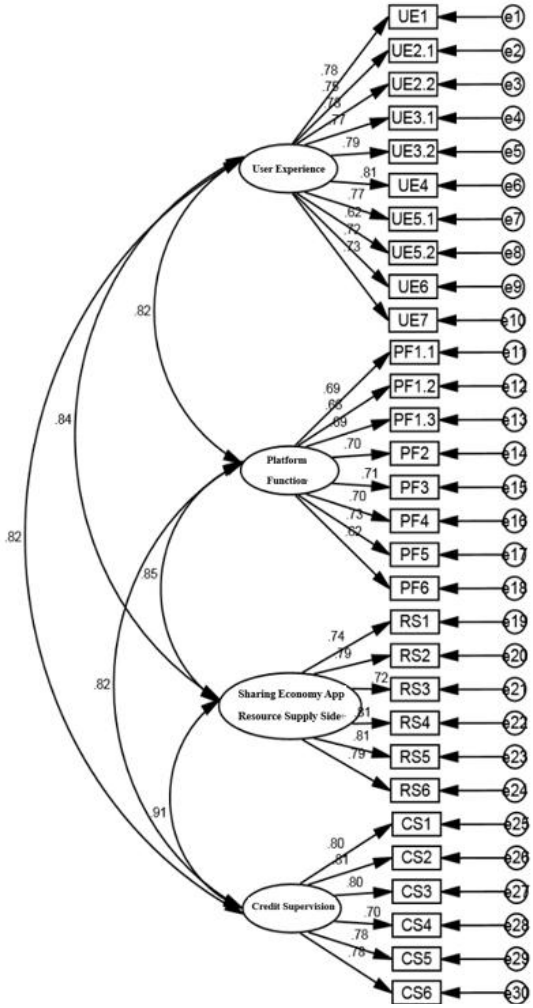

Table 5:Summary Table of Significance Test Between Indicators and Their Corresponding Dimensions

Parameter	Unnormalized Parameter Estimates	Estimated Standard Error（S.E.）	Critical Ratio（C.R.）	Significance（P）	Standardized Parameter Estimates
UE1<--User Experience	1.000	—	—	—	0.775
UE2.1<-- User Experience	0.983	0.074	13.261	***	0.751
UE2.2<-- User Experience	0.963	0.069	13.991	***	0.785
UE3.1<-- User Experience	1.018	0.075	13.620	***	0.768
UE3.2<-- User Experience	0.982	0.070	14.023	***	0.786
UE4<-- User Experience	1.101	0.076	14.542	***	0.810
UE5.1<-- User Experience	0.992	0.073	13.604	***	0.767
UE5.2<-- User Experience	0.978	0.093	10.526	***	0.617
UE6<-- User Experience	0.984	0.078	12.584	***	0.719
UE7<-- User Experience	0.957	0.075	12.762	***	0.728
PF1.1<--Platform Function	1.000	—	—	—	0.692
PF1.2<-- Platform Function	1.065	0.106	10.021	***	0.655
PF1.3<-- Platform Function	1.065	0.101	10.518	***	0.690
PF2<-- Platform Function	0.984	0.092	10.679	***	0.701
PF3<-- Platform Function	0.987	0.091	10.805	***	0.710
PF4<-- Platform Function	1.044	0.098	10.640	***	0.698
PF5<-- Platform Function	0.986	0.088	11.160	***	0.735
PF6<-- Platform Function	0.998	0.104	9.553	***	0.623
RS1<--Resource Supply Side	1.000	—	—	—	0.797
RS2<-- Resource Supply Side	1.072	0.081	13.179	***	0.815
RS3<-- Resource Supply Side	1.014	0.085	11.929	***	0.796
RS4<-- Resource Supply Side	1.066	0.078	13.612	***	0.695
RS5<-- Resource Supply Side	1.040	0.077	13.579	***	0.779
RS6<-- Resource Supply Side	1.010	0.076	13.326	***	0.785

CS1<--Credit Supervision	1.000	—	—	—	0.742
CS2<-- Credit Supervision	1.041	0.069	15.084	***	0.786
CS3<-- Credit Supervision	1.018	0.070	14.623	***	0.718
CS4<-- Credit Supervision	0.904	0.073	12.302	***	0.809
CS5<-- Credit Supervision	1.008	0.071	14.203	***	0.808
CS6<-- Credit Supervision	1.000	0.070	14.351	***	0.794

The critical ratio value is equivalent to the t-test value. If it is greater than 2.58, the parameter estimate reaches a significant level of 0.01. If the probability value of significance is less than 0.001, column P is displayed with "***"; otherwise, the numerical value is displayed directly [3]. It can be seen from Table 5 that these parameters C.R. between the indicators and their corresponding dimensions are all greater than 2.58 and P shows "***", therefore, the intrinsic quality test of the model is good.

From the analysis results of AMOS, we check the fit of the overall model according to the ratio of $\chi 2$ degrees of freedom, RMSEA, NFI, IFI, CFI in the Model Fit Summary. The fit standard or critical value is based on the suitability of each index. With the standard, the indicators of the scale in this article basically meet the requirements. The summary table of the fitness of the overall model is shown in **Table 6**.

Table 6: Summary Table of the Fitness of the Overall Model

	χ^2DOF ratio（1-3）	**RMSEA（<0.10）**	**NFI（>0.80）**	**IFI（>0.90）**	**CFI（>0.90）**
Inspection Result Data	2.366	0.071	0.842	0.903	0.902
Degree of Fit	good	acceptable	good	good	good

In AMOS, M.I. (Modification Indices) value is used to modify the indicator. For the indicator that needs to be modified, the covariance relationship is added or deleted, and the chi-square value of the overall model is reduced by at least the size of the M.I. value. Therefore, the author arranges the path M.I. values from large to small, selects a few larger M.I. value paths to modify the model. The paths with larger M.I. value s are shown in **Table 7**.

Table 7: Paths With Larger M.I. Values

	M.I.	**Par Change**
e11<—>e12	40.324	0.143
e4<—>e5	32.105	0.072
e28<—>e30	28.523	0.079
e26<—>e21	18.293	-0.061
e2<—>e3	16.988	0.052
e7<—>e8	15.766	0.077
e8<—>e14	15.168	-0.088
e8<—>e18	13.822	0.103
e26<—>e24	13.716	0.042
e8<—>e5	13.683	-0.067
e12<—>e13	11.362	0.081

It can be seen from Table 7 that the M.I. values of e2<—>e3, e4<—>e5, e7<—>e8, e11<—>e12, e12<—>e13 are relatively large. Since these paths are descriptions of multiple angles of the indicator, and there is a connection between each angle. Therefore, when modifying these groups of paths, add a covariation relationship to them. The M.I. value of this group of paths e28<—>e30 is 28.523, and there is no connection between the indicators themselves, e28 corresponds to the observed variable CS4 (credit information), e30 corresponds to the observed variable CS6 (information symmetry).From the perspective of user perception of service quality, real-name authentication and information improvement are required when using app. Users will think that their information is more likely to be disclosed, and it is very important for users that the information of both parties should be symmetrical. Therefore, the observed variable CS4 should be deleted after comprehensive consideration. The two groups of paths e26<—>e21 and e26<—>e24 are related to e26. If the observation variable CS2 (risk monitoring) corresponding to e26 is deleted, the chi-square value of the overall model will be reduced. CS2 is risk monitoring. When conflicts occur in transactions, users pay more attention to the establishment of the access threshold for sharing economy apps, hoping that both parties of the transaction have established a suitable regulatory system when entering the platform. The results of the interview showed that even when conflicts occurred in the sharing services, users had expressed their understanding of the conflicts in the transactions. For the third-party trading platform in conflict, the current model is also relatively safe and mature. Therefore, he observed variable CS2 is deleted after comprehensive consideration. For the three groups of paths related to e8, we found the M.I. after adding the covariation relationship above, the value is also reduced, so keep it.

After modifying the model, the chi-square value of the overall model was effectively reduced, RMSEA was reduced to 0.062, NFI was increased to 0.873, IFI and CFI were both increased to 0.931, the data shows that the overall model adaptation standards have been improved.

IV. FINAL MODEL REVISION AND RESULT DISCUSSION

4.1 Final Model Revision

In this paper, the preliminary model proposed by literature research and interviews, after exploratory factor analysis and dimension reduction and verification factor molecular modification, the final sharing economy app service quality evaluation scale is obtained, which contains 4 dimensions, 23 indicators and 28 items, as shown in **Table8**. Compared with the initial scale, the final scale model adds the dimension of "credit regulation". For the development of the existing sharing economy apps, the issue of "credit regulation" is always the bottleneck of the development of the sharing economy model[8]. Therefore, when developing and constructing sharing economy apps, paying attention to the regulation of credit of app will help improve service quality.

Table 8: Sharing Economy APP Service Quality Evaluation Scale

Dimension	Indicator	Interpretation
User Experience	Timeliness	The information on the use of products by the sharing economy app should be updated in time
	Ease of use	The interface of the sharing economy app should be easy to understand, and the navigation makes the operation clearer
		Users should be easier to control when operating the sharing economy app
	Usefulness	The content of the sharing economy app should meet the needs of users
		The function of the sharing economy app should be able to meet the needs of users
	Humanization	The sharing economy app should have a reasonable layout and have a humanized design
	Individuation	Users should be able to find products that meet their personal needs through the app
		Sharing economy app should push personalized services dedicated to users according to their frequent use
	Perceived cost advantage	Users should feel that buying services through the sharing economy app platform is much cheaper than buying resources directly
	Perceived satisfaction	Users should feel satisfied with the service process
Platform Function	Empathy	Sharing platform can understand and understand users' wishes
		Sharing platform can put the interests of users first
		The sharing platform is willing to adopt the good opinions of users
	Information leakage	Sharing economy app should not reveal users' private information
	Convenience	Sharing platform allows users to access services conveniently and quickly
	Stability	The sharing economy app should be free of stuck, flashback, etc.
	Fund management	Sharing economy apps should not delay when collecting deposits or refunding balances
	Responsiveness	Users should not need to wait (register, log in, start) when operating the sharing economy app
Sharing Economy App Resource Supply Side	Legal qualification	The resource supplier has legal copyright and ownership of idle resources
	Reliability	Information provided by resource providers should be reliable
	Maximize use	Resource providers can maximize the use of idle resources and get the income and sense of accomplishment they want
	Facility integrity	Facilities provided by resource providers should be kept intact
	Information feedback	After the user purchases the product, the resource provider can receive information feedback in time
	Use security	Articles provided by resource providers should provide security
Credit Supervision	Third party payment	When using the sharing economy app to purchase goods, the app should provide third-party payment (such as Alipay, WeChat, etc.)
	Comment reliability	The information reviewed by sharing economy app users should be true and reliable
	Regulatory system	The sharing economy app should establish a suitable regulatory system and establish a threshold for entry
	Information symmetry	The information on both sides of the transaction on the sharing platform should be symmetrical

4.2 Suggestion

The service quality evaluation scale of the sharing economy app constructed in this article includes four aspects: user experience, platform functions, sharing economy app resource supply side, and credit supervision. It can not only reflect the needs of users using sharing economy app, but also provide theoretical reference for

the accurate service of sharing economy app and improving service quality. Based on the constructed scale, the author makes the following suggestions for the development and development of the sharing economy app:

4.2.1 Optimize User Experience of Sharing Economy App

Optimizing user's experience can greatly increase user satisfaction with service quality. The user experience dimension mentioned "timeliness" "ease of use" "humanization" "personalization" and other indicators, indicating that users expect timely updates of information in apps of sharing economy; The interface layout is reasonable, easy to understand, clear navigation; It can provide personalized services specific to the user's usage habits. For example, the space-sharing app can be based on the type of house the user is going to book. When next time the user uses it, it can recommend the house that meets the user's preferences and personalize the preferences.

4.2.2 Strengthen the Function Construction of Sharing Economy App Platform

As an intermediate platform for users to obtain services, the sharing economy app should bring convenience to users, but the sharing economy app is still lacking in this respect, so the construction of platform functions needs to be strengthened. The "convenience" "stability" "responsiveness", and "fund management" mentioned in the platform function dimension also greatly affect the user's perceived service quality. Users hope that the platform's functions can enable them to obtain services conveniently and quickly; When using the sharing economy app, it is better that there is no lag or flash back; When operating the app, the waiting time should be short; The app should not default when collecting deposit and balance refund. Developers should pay attention to the above aspects when developing and building sharing economy apps.

4.2.3 The Platform Improves the Review Standard of the Sharing Economy App Resource Supply Side

The safety guarantee of users when using shared economy products is particularly important. Users pay great attention to "legal qualification" "use security" "facility integrity", etc. In order to be responsible for the safety of users, the platform should improve the resource supply side audit criteria: Refuse suppliers without legal copyright and ownership of idle resources; When receiving facilities provided by the resource supply side (such as houses, bicycles, charging treasures, etc.), check whether the facility is intact and whether there are hidden safety hazards; The resource supplier shall assume the responsibility of ensuring the safety of the goods it provides.

4.2.4 Establish an Appropriate Credit Supervision System

"Credit" is the most critical issue facing the operation of sharing economy apps. The rapid development of the sharing economy is inseparable from the third-party trading platform. In the final scale model, "credit supervision" is generated as a new dimension, indicating that users are very concerned about the "credit supervision" in the service quality of the sharing economy app. However, the current entry barriers of the trading platform are insufficiently constrained, making it difficult for the trading platform to assume the obligations of supervision and security[15]. Therefore, as a service providing platform, the sharing economy app should establish an appropriate credit supervision system and establish an entry threshold to ensure the quality of the platform's users and supervise the information that users comment online to ensure its reliability.

V. CONCLUSION AND OUTLOOK

This paper draws on the existing service quality evaluation scale research, combines the characteristics of the sharing economy, constructs an initial evaluation scale, and uses a questionnaire survey to collect data. This scale has passed the test of reliability and validity, using exploratory factor analysis and confirmatory factor analysis methods finally constructed an evaluation scale suitable for the service quality of the sharing economy app. The scale is composed of 23 indicators and 28 items in 4 dimensions: user experience, platform function, sharing economy app resource supply side and credit supervision. In future research, service quality evaluation can be carried out for specific sharing economy apps based on the sharing economy app service quality evaluation scale constructed in this paper. At the same time, this scale can provide accurate services for sharing economy apps and improve service quality. Providing theoretical reference has certain guiding significance for the development of sharing economy apps.

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