

Service Awareness and Management Effects on Library Visit Frequency Mediated by User Interest Using SEM-PLS

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Abstract: Reading interest and library visit behavior remain important indicators of community literacy development. This study aims to analyze the effect of service awareness and management quality on library visit frequency, with interest and positive attitude as a mediating variable. A quantitative approach was employed using structural equation modeling - partial least squares (SEM-PLS). Data were collected from 40 library users through a Likert-scale questionnaire. The measurement model was evaluated through convergent validity, construct reliability, and multicollinearity testing. The results show that all constructs and indicators meet recommended thresholds for loading factors, Average Variance Extracted, and Composite Reliability. These findings indicate that service awareness and management quality contribute to the formation of users' interest and positive attitudes toward library services. In conclusion, strengthening service management and improving user awareness are essential to increase visit frequency and support sustainable literacy development. This evidence provides practical guidance for library managers and future literacy research.

Keywords: Library Management; Reading Interest; Structural Equation Modeling - Partial Least Squares (SEM-PLS); Service Awareness; Visit Frequency

Abstrak: Minat membaca dan perilaku kunjungan perpustakaan merupakan indikator penting dalam pengembangan literasi masyarakat. Penelitian ini bertujuan untuk menganalisis pengaruh kesadaran layanan dan kualitas manajemen terhadap tingkat kunjungan perpustakaan dengan minat dan sikap positif sebagai variabel mediasi. Pendekatan kuantitatif digunakan dengan metode structural equation modeling - partial least squares (SEM-PLS). Data dikumpulkan dari 40 pengguna perpustakaan melalui kuesioner berskala Likert. Model pengukuran dievaluasi melalui uji validitas konvergen, reliabilitas konstruk, dan multikolinearitas. Hasil penelitian menunjukkan bahwa seluruh konstruk dan indikator memenuhi ambang batas nilai loading factor, Average Variance Extracted, dan Composite Reliability. Temuan ini mengindikasikan bahwa kesadaran layanan dan kualitas manajemen berkontribusi dalam membentuk minat dan sikap positif pengguna terhadap layanan perpustakaan. Dengan demikian, penguatan manajemen layanan dan peningkatan kesadaran pengguna menjadi strategi penting untuk meningkatkan tingkat kunjungan dan mendukung pengembangan literasi yang berkelanjutan.

Kata Kunci: Manajemen Perpustakaan; Minat Membaca; Structural Equation Modeling - Partial Least Squares (SEM-PLS); Kesadaran Layanan; Tingkat Kunjungan

1. Introduction

Reading interest is one of the important indicators in the development of human resource quality, particularly in the context of education and community literacy. Reading interest is not only related to technical reading skills, but also reflects individuals' attraction, motivation, and habits in accessing and utilizing reading materials as sources of knowledge and information. A high level of reading interest contributes to the enhancement of insight, critical thinking ability, and the formation of lifelong learning character. However, amid the rapid development of digital technology, public reading interest still faces various challenges, such as changes in information consumption patterns and low awareness of the importance of sustained reading activities [1], [2].

Numerous studies have examined the factors influencing reading interest among students, university students, and the general public. Internal factors such as motivation, attitudes, and reading habits are often identified as the main determinants of reading interest, while external factors include the availability of facilities, environmental support, and library services. Previous studies indicate that awareness of library services and ease of access to reading resources have a significant relationship with individuals' reading interest levels [3], [4]. Research on millennials' reading interest in print and online media shows that reading interest remains relatively low, with only slight differences between the two media types, suggesting that changes in reading media have not significantly increased reading interest [5]. Furthermore, systematic literature reviews reveal that low reading interest in Indonesia is influenced by various factors, including infrastructure, family education, reading technology, economic conditions, motivation, and reading instruction, highlighting the need for comprehensive and sustainable efforts to improve public reading interest [6].

The structural equation modeling - partial least squares (SEM-PLS) approach has increasingly been applied in reading interest research due to its ability to analyze relationships among latent variables simultaneously and its flexibility regarding sample size and data distribution. Studies show that reading interest is influenced by complex internal and external factors, such as motivation, reading habits, environment, and supporting facilities, making

structural modeling relevant in literacy research [7]. Quantitative studies in education also demonstrate that institutional literacy programs have a positive effect on increasing reading interest, with motivation and environmental support as dominant factors [8]. In the digital era, indicators of reading interest are no longer limited to the number of printed books but also include reading activities through digital and online media [9]. SEM-PLS-based research indicates that reading behavior and reading habits significantly contribute to students' academic readiness and academic achievement [10]. In addition, SEM-PLS has proven effective in analyzing interest and perceptions related to the use of digital technology in learning [11], the relationship between perception and knowledge toward analytical competence in data-driven education [12], and complex causal relationships among social variables in various research contexts [13].

Based on previous studies, research on reading interest generally still focuses on the direct effects of internal and external factors and has not extensively integrated structural relationships among variables in a comprehensive manner involving mediating variables. Moreover, some studies continue to separate print and digital media contexts, which has not fully represented the multidimensional nature of reading behavior in the digital era. From a methodological perspective, although SEM-PLS has been widely used in educational and social research, its specific application to examine the role of service awareness and accessibility on reading interest through mediating mechanisms remains relatively limited. Therefore, this study aims to analyze the influence of service awareness and accessibility on reading interest by incorporating mediating variables using the SEM-PLS approach, with the expectation of providing a more comprehensive understanding of the factors shaping reading interest and serving as a basis for formulating more effective strategies to enhance reading interest.

2. Method and Experimental

This study employs a quantitative approach using structural equation modeling - partial least squares (SEM-PLS). The SEM-PLS method was selected due to its ability to simultaneously analyze causal relationships among latent variables and its suitability for relatively small sample sizes and data that do not fully meet normal distribution assumptions [14], [15]. The study involved 40 respondents who were library users. Data were collected using a questionnaire instrument with a 5-point Likert scale, where a value of 1 indicates strongly disagree and a value of 5 indicates strongly agree [16].

The research variables consist of two independent variables, one mediating variable, and one dependent variable. Service Awareness (SA) as an independent variable was measured through indicators reflecting respondents' knowledge of available library services, understanding of service usage procedures, and ease of understanding the provided service information. Management Quality (MQ) as an independent variable was measured using indicators related to orderly and well-organized library management, policies that support visitor comfort, and management responsiveness to users' needs and feedback. Interest and Positive Attitude (IPA) serves as the mediating variable and was measured through indicators of respondents' interest in utilizing library services, perceptions of the benefits of the library, and positive attitudes toward activities organized by the library. Meanwhile, Visit Frequency (VF) as the dependent variable was measured through indicators of visit frequency, willingness to allocate specific time for library visits, and intention to revisit. The operationalization of variables comprises four constructs represented by twelve indicators, as systematically presented in Table 1.

Table 1. Variable, Definition, and Indicator

Variable	Type	Code	Indicator
Service Awareness (KL)	Independent	KL1	1. I am aware of the types of services available in the library.
		KL2	2. I understand the procedures for using library services.
		KL3	3. Information about library services is easy for visitors to understand.
Management Quality (KM)	Independent	KM1	1. Library management is conducted in an orderly and well-organized manner.
		KM2	2. Library policies support visitor comfort.
		KM3	3. Library management is responsive to users' needs and feedback.
Interest and Positive Attitude (MSP)	Mediator	MSP1	1. I have an interest in utilizing library services.
		MSP2	2. I perceive the library as a beneficial place.
		MSP3	3. I have a positive attitude toward activities organized by the library.
Visit Frequency (TK)	Dependent	TK1	1. I frequently visit the library.

	TK2	2. I allocate specific time to visit the library.
	TK3	3. I am motivated to revisit the library.

The analysis of library user behavior through Service Awareness (KL), Management Quality (KM), Interest and Attitude (MS), and Visit Frequency (TK) was conducted using structural equation modeling - partial least squares (SEM-PLS) with the assistance of SmartPLS software. The analysis stages included the evaluation of the measurement model to assess construct validity and reliability, as well as the evaluation of the structural model to examine the strength and direction of relationships among latent variables.

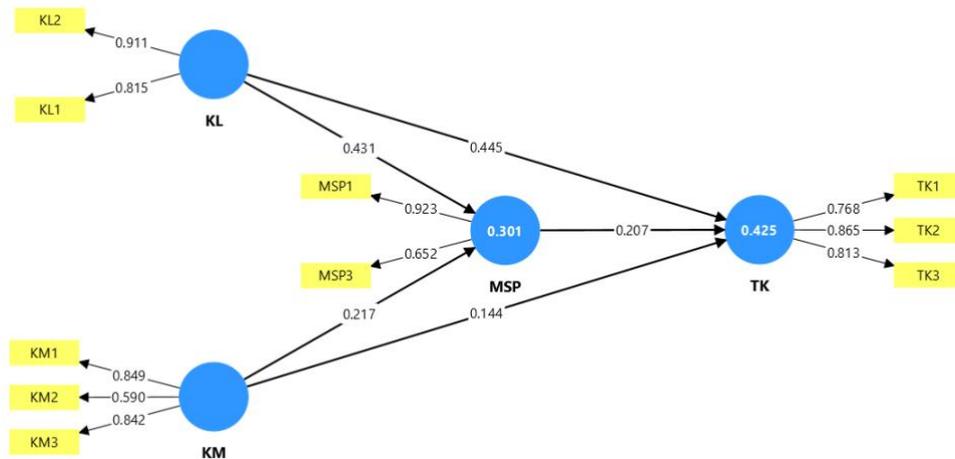


Fig. 1 Model Diagram and Intervariable Relationships

Data analysis was conducted using the structural equation modeling - partial least squares (SEM-PLS) approach, involving the evaluation of the measurement model (outer model) and the structural model (inner model). The measurement model evaluation aimed to assess construct validity and reliability, including convergent validity testing through loading factor values and Average Variance Extracted (AVE), construct reliability testing using Cronbach's Alpha and Composite Reliability (ρ_c), as well as indicator multicollinearity testing using the Variance Inflation Factor (VIF).

3. Result and Discussion

The results of this study indicate that the quality of the measurement model meets the recommended standards in SEM-PLS analysis, confirming that the constructs of Service Awareness, Management Quality, Interest and Positive Attitude, and Visit Frequency are able to empirically represent the investigated phenomena. This finding is consistent with the view that SEM-PLS is highly suitable for analyzing relationships among latent variables in social and educational research with relatively small sample sizes [17].

Good convergent validity in the Service Awareness construct indicates that users' knowledge and understanding of library services are clearly and consistently defined dimensions. This strengthens previous findings suggesting that awareness of information services plays an important role in encouraging user engagement with literacy facilities [18]. When users understand the types and procedures of available services, they tend to be more actively involved in utilizing libraries as sources of knowledge. The Management Quality construct also demonstrates satisfactory validity and reliability, reflecting that orderly management, comfort-supporting policies, and managerial responsiveness are perceived as an integrated and coherent set of attributes by users. This result supports earlier studies emphasizing that the quality of public service management, including libraries, significantly contributes to user satisfaction and loyalty [19]. Therefore, professional management can serve as a fundamental basis for enhancing the strategic role of libraries.

For the Interest and Positive Attitude construct, although the Cronbach's Alpha value is relatively low, the Composite Reliability value meets the recommended threshold, indicating acceptable internal consistency within the

SEM-PLS context. This condition is commonly found in exploratory studies with a limited number of indicators and small sample sizes [20]. Substantively, this finding suggests that interest and positive attitudes toward libraries are dynamic psychological constructs influenced by various situational factors, thus requiring continuous and adaptive measurement approaches. Meanwhile, the Visit Frequency construct exhibits the strongest reliability among all constructs, indicating that users’ visitation behavior—reflected through visit frequency, time allocation, and intention to revisit—represents a stable and observable indicator. This finding aligns with previous studies asserting that actual user behavior often serves as the most concrete representation of library service effectiveness [21]. Table X presents the results of the measurement model evaluation, showing that all indicators have loading factor values above the recommended threshold, supported by adequate AVE and Composite Reliability values, and show no multicollinearity issues based on VIF values. Accordingly, all constructs are declared valid and reliable.

Table 2. Construct Validity and Reliability

Construct & Indicator	Loading Factor	AVE	Cronbach’s Alpha	Composite Reliability (rho_c)	VIF	Description
Service Awareness (KL)		0.746	0.668	0.854		Valid & Reliable
KL1 – Knowledge of library services	0.815				1.337	Valid
KL2 – Understanding of service procedures	0.911				1.337	Valid
Management Quality (KM)		0.593	0.655	0.810		Valid & Reliable
KM1 – Orderly management practices	0.849				1.469	Valid
KM2 – Policies supporting visitor comfort	0.590				1.147	Valid
KM3 – Management responsiveness	0.842				1.437	Valid
Interest and Positive Attitude (MSP)		0.639	0.473	0.774		Valid & Reliable
MSP1 – Interest in utilizing library services	0.923				1.106	Valid
MSP3 – Positive attitude toward library activities	0.652				1.106	Valid
Visit Frequency (TK)		0.667	0.762	0.857		Valid & Reliable
TK1 – Frequency of visit	0.768				1.607	Valid
TK2 – Time allocation for visits	0.865				1.413	Valid
TK3 – Intention to revisit	0.813				1.786	Valid

Overall, the findings of this study emphasize that increasing library visit frequency does not solely depend on the availability of facilities, but also on management quality and the development of users’ service awareness and positive attitudes. The integration of structural aspects (management and services) and psychological aspects (interest and attitudes) plays a crucial role in building a sustainable literacy ecosystem. Accordingly, these findings reinforce the modern literacy conceptual framework that positions libraries as adaptive knowledge service centers responsive to users’ needs in the digital era [22].

4. Conclusion

This study analyzes the role of service awareness and management quality in influencing library visit frequency by incorporating interest and positive attitude as mediating variables using the SEM-PLS approach. The results indicate that all constructs and indicators meet the recommended criteria for convergent validity and reliability, confirming that the measurement model is adequate for analysis. These findings suggest that good management quality and sufficient service awareness contribute to the development of users’ interest and positive attitudes toward the library. Furthermore, interest and positive attitudes play a role in encouraging users’ visitation behavior, as reflected by the

high reliability of the visit frequency construct. Overall, this study confirms that increasing library visits requires an integrated approach that combines professional service management, clear service information, and strategies for fostering positive user attitudes. The results are expected to serve as a basis for library managers in designing more effective literacy policies and programs, as well as a reference for future research.

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Author Contribution

Neni Alyani contributed to conceptualization, methodology development, manuscript review. **Muhammad Rizky** contributed to formal analysis and quantitative analysis. **Hulwatul adzro** contributed to formal analysis manuscript editing, quantitative analysis. **M. Miftahul Madya** contributed to conceptualization, methodology development, investigation, quantitative analysis, initial draft preparation, manuscript review and editing.

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