

# Trust Perception and Information Use for Informational Website: Structural Equation Modelling Approach

Umi Proboyekti<sup>1,2</sup>, Ridi Ferdiana<sup>1</sup>, P. Insap Santosa<sup>1</sup>

<sup>1</sup> Department of Electrical and Information Engineering, Faculty of Engineering, Universitas Gadjah Mada, Sleman, D.I. Yogyakarta 55281, Indonesia

<sup>2</sup> Information System Department, Faculty of Information Technology, Universitas Kristen Duta Wacana, Yogyakarta, D.I. Yogyakarta 55224, Indonesia

[Received: 31 October 2024, Revised: 13 January 2025, Accepted: 15 January 2025]

Corresponding Author: Ridi Ferdiana (email: ridi@ugm.ac.id)

**ABSTRACT** — Trust is described in various contexts, such as e-commerce, e-government, reviews, and online health information. Credibility and information quality are fundamental to building trust in those contexts. This study aimed to develop trust perception (TP) and information use (IU) indicators in an information evaluation context. Indicators were developed through three processes: searching, grouping, and construction. Relevant indicators were grouped based on similarities to construct statements, which were validated for face and content validity by three experts. The validated TP and IU were then tested using the partial least squares structural equation modeling (PLS)-SEM. The data used for measurement obtained from 110 participants comprising 55 Indonesian academic librarians and 55 university students. Participants responded to indicator statements after evaluating information from four prepared informational websites. This study yielded five TP indicators and a single IU indicator, where TP significantly predicted IU. The five indicators described TP as make-sense information relevant to needs, provided by trusted authors and providers, and accompanied by accessible author information, provider information, and reference sources. IU was described as the information used for its credibility. The measurement demonstrated distinct participant behaviors. Differences in needs influenced assessments, while author and provider trustworthiness showed no bias toward participant type. Trust perception significantly predicted IU, with moderate model fit and varying predictive strengths across the websites. Tested as reliable, valid, and a significant predictor of IU, TP serves as a tool for examining factors that potentially influence trust in online information.

**KEYWORDS** — Indonesian Librarians, Indicator Development, Information Use (IU), Trust Perception (TP).

## I. INTRODUCTION

Trust is the main reason for actions. It creates confidence that the trusted party will not cause harm [1]. This is the basis of definitions for trust in various contexts, such as e-commerce, e-government, online health informational websites, and online review websites. In the e-commerce context, trust means confidence in making a purchase [2] in uncertain environments [1], expecting sellers to be competent and responsible [1]. In the e-government context, citizen's attitudes towards government electronic services depend on the conformity of people's expectations and government performances [3] in protecting data and privacy when using e-government [4]. In the online product/service review context, trusted reviews are based on information qualities [5], trustworthy reviewers, relevancy to the user's needs [6], and reliability [5]. Reviews with these characteristics support reader understanding and decision-making [7]. Online health information also directs readers to trust and follow the health advice presented [8]. Trust in online health information is based on credibility, information quality, and content design [9]. Credibility factors [10] are references [11], author credibility [9], information about the author [12], and recommendations [10]. Information quality factors are usefulness [10], suitability to needs [13], comprehensibility [14], and objectivity [15]. Related design factors are easy-to-understand [16], good design [10], ease of use [17], and information layout [14].

Trust in e-commerce websites involves both products and parties presenting the products. Trust in e-government websites relates to the security of individual data involved in the services

and the performance of the services rather than the service providers themselves [3]. Trust in online review websites is associated with recommendations about products or services [5]. Trust in online health information is based on the credibility of the information provider and the quality of the information [9]. Credibility and information quality are fundamental to building trust in e-commerce, e-government, reviews, and online health information websites. This similarity provides an opportunity to develop a TP in informational websites.

Informational websites focus on providing knowledge and educating their audiences without offering any products or services. In these four contexts, the information is related to the products and services offered, making trust closely tied to both the information and the associated products/services. In contrast, informational websites present information as the product, aiming to enhance knowledge. Consequently, the provided information connects directly to the trust.

When individuals access e-commerce, e-government, review, and online health information websites, their assessment of information is tied to the products offered. However, when they access informational websites, they assess the information directly. This assessment is also known as information evaluation. Hence, this study aimed to develop indicators of trust perception (TP) in informational websites in the context of information evaluation in academic settings.

In the context of information evaluation, evaluation strategies emphasizing the source to support decisions about trusting online information have been proposed [18]. These

strategies involve various cues that prompt individuals to investigate based on these hints. Examples of these cues include the reasons for seeking information, how the information is obtained, the ease of investigating the information, prior knowledge about the information, and the writer's expertise on the subject. However, the elements underlying trust during information evaluation were not explicitly identified. Although website types were not specified in their study, the research's context was information evaluation on websites [18]. Meanwhile, another study used informational websites, which were news websites, to prove that content evaluation directed the willingness to use the content [19]. The content dimensions were credibility, quality, readability, and expertise. However, this study did not involve trust.

Informational websites have become research objects to validate the factors influencing subjective perceptions [20], measure credibility [21], and investigate users' information evaluation behavior [22]. This study contributes to describing TP that arises when individuals evaluate information. Reliable and valid indicators describe TP. TP and its indicators are a foundation for studies examining various factors influencing TP toward online information.

These indicators are key elements in the information evaluation process. The abundance of websites with varying information quality necessitates individuals to evaluate information [23], including information generated by generative AI. Website content designers or information providers gain valuable insights or confirmation regarding the key elements of TP that direct individuals to use information on their websites. The measurement of TP involves information use (IU), as the ultimate goal of evaluating information is to use it [23]. Therefore, this study also defined the concept of IU. This study aimed to determine (a) the indicators of TP and IU and (b) the significance of TP in predicting IU.

## II. METHODOLOGY

Based on the assigned scenario, the experiment was designed to answer the research questions using websites as materials for participant activities. Purposive sampling was applied to recruit both types of participants. All participants consented to take part in the study and received compensation. Data were collected through a survey completed by participants after completing the tasks within the scenario. The TP and IU indicators were developed using three steps: searching, grouping, and constructing before being measured with partial least squares structural equation modeling (PLS-SEM) in the SmartPLS software.

PLS-SEM analysis consists of two processes: measurement model and structural model measurement with aims to maximize model fit based on the  $R^2$  value [24], [25]. The measurement model aims to measure indicators and construct reliability and validity. The measurement of the indicator reliability was done through indicator reliability or loading, with a standard threshold of  $> 0.708$ . The measurement of the construct reliability was done using Cronbach's alpha and composite reliability ( $\rho_a$  and  $\rho_c$ ), with a standard threshold of  $> 0.7$  for the internal consistency. The construct validity was measured using average variance extracted (AVE), with a standard threshold of  $> 0.5$  [24]. The discriminant validity assessment was conducted using the cross-loading, the Fornell-Larcker criterion, and the heterotrait-monotrait ratio (HTMT) [26]. These three measures compare the correlation of

indicators with their respective constructs against their correlation with other constructs, ensuring that indicators have a stronger correlation with their intended construct. When the discriminant validity results confirm no redundancy of indicators, the model is deemed suitable for further analysis [25]. Finally, the structural model was evaluated using the path coefficient to measure the relationship between constructs,  $R^2$  to assess how well the model represents the actual situation, and  $f^2$  to measure the effect size of constructs within the model [24]. In addition, a two-way ANOVA with replication was used to analyze the influences of two factors—participants and websites—on TP and IU.

### A. RECRUITMENT OF RESEARCH PARTICIPANTS

The study involved two types of participants, academic librarians and students, both of whom participated in testing the TP and IU indicators. One of the professional standards for librarians, as outlined in the National Library Regulation of the Republic of Indonesia Number 24 of 2017, includes guiding information literacy, the use of e-resources, and reference sources. This information literacy guidance is regularly conducted in academic libraries by librarians [27], [28]. The strategies and knowledge imparted by librarians are transferred to students, who then adopt similar methods [29]. Based on this rationale, this study involved academic librarians and students as research participants.

A networking approach was utilized as the method for recruiting potential academic librarians to participate in the study, resulting in the recruitment of 61 academic librarians from diverse regions across Indonesia. Following communication with each librarian, 55 academic librarians consented to participate in this study. The students were from Universitas Kristen Duta, located in Yogyakarta, Indonesia. Students from the Theology, Information Systems, and Architecture Design departments were selected to serve as representatives for majors in social sciences, technology, and design, respectively. The classes of 2020, 2021, and 2023 were selected to represent different experiences and capabilities in dealing with online information for academic purposes. Fifty-five students agreed to partake in the study proposed by the researcher. They attended data collection sessions based on their selected schedule.

According to Soper's online a-priori sample size calculator for structural equation modeling (SEM), a sample size of 110 is considered adequate for detecting the impact [30]. Twenty-three samples are recommended minimum sample size to detect the impact based on the given characteristics, which include an expected effect size of 0.5, a desired statistical power level of 0.8, 2 latent variables, 5 observable variables, and a probability level of 0.05. In PLS-SEM, latent variables refer to constructs, and observable variables referring to indicators [25]. In this study, the latent variables were TP and IU. The five observable variables were the indicators of TP.

### B. WEBSITES FOR EXPERIMENT SCENARIO

The study utilized actual websites as the material for the scenario to give an authentic experience of evaluating online information [31], [32] about open access. The selection of 12 websites started from the 5th page of the search engine results page (SERP) to avoid bias [33]. The websites underwent an inter-rated reliability examination conducted by three information science experts who agreed upon four potential explorable websites that would direct participants to explore and question website credibility. The experts' agreement was

56%, a moderate agreement based on the range of Kappa values: 0.41–0.60 [34]. The four information websites about open access consist of two Indonesian language websites and two English websites.

1. The Indonesian Blog AjoPiaman: it is a personal blog that provides various tips, including how to access and use open access resources. The blog owner is the primary author, offering comprehensive information about their competencies.
2. The Indonesian Open Access Community: the website outlines the community and open access resources with clear accountability and organizational support, although its information is somewhat outdated.
3. The Open Access Network: it is from Germany and is managed by a consortium of several higher education institutions, providing a thorough explanation of open access; however, some of its web pages are only available in German.
4. The Open Source: the website explains open source, with open access only briefly mentioned as part of open source, and the information about open-source software is more prominent.

Collecting data scenarios instructed participants to evaluate information from the four websites one at a time. For academic librarians, the evaluation aimed to decide whether the information was suitable as a resource for content on open access introduction for students to access on a webpage [35]. For students, the evaluation aimed to decide whether the information informs them about open access to increase their understanding of open access. The data collection scenario was designed to direct participants to evaluate, one at a time, information from four predetermined websites before answering a questionnaire for each website. The participants evaluated information using their strategy without the researcher's interference. No exact time limit was imposed for evaluating the websites to prevent haste. Direct observation was conducted during data collection to ensure participants evaluated the information. Data collection was conducted online through Zoom for participants located outside the city, while local academic librarians and students were invited to participate directly in the laboratory.

### C. INDICATOR DEVELOPMENT PROCESS

The indicators development adopted indicators from relevant literature [36], then adapted them to the information evaluation domain through three processes, namely searching, grouping, and constructing, which produced indicators in the form of statements. Searching is collecting relevant indicators from the literature. Grouping puts indicators with similarities in one group. One statement is constructed to represent each group of indicators. Experts conducted face and content validity on each indicator statement produced.

#### 1) TRUST PERCEPTION INDICATOR DEVELOPMENT

The TP indicator development applied three processes. It started with searching for trust indicators from literature, grouping similar ones, and then constructing a statement for each group. The followings are the search results for trust indicators from the literature.

1. What is my aim in seeking information? [18].
2. I believe this website is concerned with users' current and future interests [37].

3. The information on this website does not interest me [38].
4. In my opinion, this website's design and information consider the desires and needs of its users [37], [39].
5. I believe this website is sensitive to its users' needs [37], [39].
6. I believe this website knows its users well enough to offer them information according to their needs [37], [39].
7. Is the website easy to investigate? [18]
8. Trustworthiness is whether a source or information is trustworthy and honest [38].
9. Openness about the source/provider makes me believe the information presented [40].
10. Is the presented information reviewed? [18]
11. Does the information make sense? [18]
12. Does the author have competence in what he is discussing? [18]
13. Familiarity is how familiar a user is with the source [40].
14. Look and feel is an overall impression or evaluation of the indicators [40].
15. Do I understand the type of website that provides this information? [18]
16. This website's information appears genuine and honest to me [37].
17. I believe I can trust the promises made by this website [37].
18. This website does not make false claims [37].
19. I believe this website usually keeps its promises [37], [39].
20. The advice and recommendations provided on this website are intended to be mutually beneficial [37].
21. I believe this website considers the consequences of its actions on the consumer [37], [39].
22. I believe that this website would not intentionally do anything that would prejudice the user [37], [39].
23. I believe this website can present its information [37], [39].
24. This website has sufficient experience presenting its information [37], [39].
25. I can rely on the information on this site [41].
26. I believe it is safe to use a website that provides such information [42], [43].
27. I believe the website presenting the information is reliable [42], [43].
28. I think there will be no problems using a website that provides the information [42], [43].
29. This website, in my opinion, has the necessary resources to present its information successfully [37], [39].
30. I stayed long enough on each web page I visited [38].
31. I enjoyed visiting the pages of the website [38].

The list of referenced indicators was grouped based on similarities, with each group represented by a single combined indicator statement. In Table I, the "Combined Indicator Statement" column presents the resulting statement for each group, while the "Referenced Indicators" column lists the numbering of the referenced indicators included in each group. Most indicators were constructed from more than one referenced indicator, except for the fifth and the tenth indicator. The eleven statements in Table I are TP indicators resulting

TABLE I  
CONSTRUCTED TP INDICATORS

No.	Combined Indicator Statement	Referenced Indicators
1	The website presents information that meets the users' needs	[1]–[6]
2	Author attributes, providers, services, and library resources are accessible	[7]–[9]
3	Information makes sense because it is reviewed and validated before being presented	[10]–[11]
4	Competent and well-known author	[12]–[14]
5	The kind of website is familiar to users	[15]
6	The website owner is trusted so that the information presented is as it should be and is correct	[16]–[19]
7	The website provides benefits to its users through the services provided	[20]–[22]
8	The website owner has the competence to provide the information	[23]–[24]
9	The information on this type of website is safe to use	[25]–[28]
10	The website has needed resources to present information well	[29]
11	Each web page was visited long enough to enjoy the experience	[30]–[31]

from the grouping phase. Subsequently, these indicator statements underwent face and content validation by three experts, who merged and/or refined the statements. The process of refining the indicator statements through merging and revising the eleven original indicator statements resulted in five indicators.

The following are the five statements and the original indicator statements that were merged and revised.

1. "The website provides information according to user needs." The statement was derived from indicator 1, 7, and 10.
2. "Information about the authors, reference sources, and providers are accessible." This statement is a revision of indicator 2.
3. "Information makes sense." This statement is a revision of indicator 3.
4. "The author is trusted." This statement is a revision of indicator 4
5. "The website provider is trusted." The statement was derived from indicator 6 and 8.

The experts did not consider indicators 5, 9, and 11 as TP indicators. As a result, five validated indicators were defined as the TP descriptions, as outlined in [35]. The measurement examined the relationship between TP and IU, along with their indicators, as trust in information led to its use [8]. The development of IU indicators is discussed in the following section.

## 2) INFORMATION USE INDICATOR DEVELOPMENT

The use of information is the final phase of a process that begins with recognizing an information need [44], [45]. This need drives the evaluation of information to assess its credibility [46], [47]. Both need and credibility form the basis for decisions to use information. The search for IU indicators produced the following results.

1. I intend to continue using the website [48].
2. I will continue using the website [48].
3. I plan to continue using the website [48].

4. I will consider using this website [36].
5. My possibility of using the website is high [36].
6. I intend to utilize the e-services [49].
7. I plan to utilize the e-service [49].
8. I anticipate employing the e-service [49].
9. I will continue to utilize the e-service in the future [49].
10. I plan to maintain my use of e-services rather than discontinuing them [50].
11. I intend to persist in employing e-services rather than employing alternative methods [50].
12. I will not cease utilizing e-services [50].

The grouping of indicators in Table II resulted in several indicators by combining elements related to the need for or credibility of the information. The experts agreed to focus on these two aspects—need and credibility, in validating the face and content of IU indicators. In addition, the experts agreed to ignore the referenced indicators on e-services because the core of the statements was included in the other group of referenced indicators.

During the panel discussion, improvements were made to the third indicator by replacing the word "choose" with "use," and removing the phrase "meet my need," as using something inherently implies it meets one's needs. The final version of the IU indicator was agreed upon as "I use this information because it is credible" [35], resulting in a single IU indicator as [51] applied a single indicator.

The defined indicators were then tested for reliability and validity using data from 110 participants. The implementation of PLS-SEM using the SMARTPLS software was to measure the structural model that links TP and IU. PLS-SEM also assessed the reliability and validity of both indicators and constructs. Structural model analysis was conducted once these were confirmed as reliable and valid. The measurement data was gathered from 55 academic librarians and 55 students, who evaluated information from four websites according to the experimental scenario. A two-way ANOVA with replication was then used to analyze the interaction of these indicators with each participant group.

## III. ANALYSIS AND RESULTS

### A. PARTICIPANTS' PROFILE

Table III and Table IV present the demographic profile of the 55 students and 55 librarians, with a fairly balanced gender ratio across both groups. All education levels in the field of library or information science are represented, with more than 50% of librarians having bachelor's and master's degrees. The librarian participants are also dominated by experienced ones who have worked in the field for over 10 years.

Student participants varied in years of study and academic background, while librarian participants differed in years of work experience and education degree in library or information science fields. The two participant types represent two skill levels: experts (librarians) and nonexperts (students). The diversity among the two participant groups was expected to support the generalization of TP and IU indicator testing within this study context.

### B. MEASUREMENT AND THE RESULTS

The data came from participants' responses to 5 TP statements and 1 IU statement for the four websites designated as experimental materials. Participants responded to the statements each time they finished evaluating the information.

TABLE II  
CONSTRUCTED IU INDICATORS

Combined Indicator Statement	Referenced Indicators
I intend to continue using the website	[1]–[5]
I will continue using the website	
I plan to continue using the website	
I will consider using this website	
My possibility of using the website is high	

TABLE III  
ACADEMIC LIBRARIANS' PROFILE

Librarian Characteristic	Freq.	Percentage	
Gender	Female	30	54.55
	Male	25	45.45
Library/Information Science	Diploma	6	10.91
	Bachelor's degree	23	41.82
	Master's degree	23	41.82
	Doctoral degree	3	5.45
Experience in the domain	< 3 years	2	3.64
	3–5 years	10	18.18
	5–10 years	10	18.18
	> 10 years	33	60

TABLE IV  
STUDENTS' PROFILE

Student Characteristics	Freq.	Percentage	
Gender	Female	27	49.09
	Male	28	50.91
Education Major	Architecture	19	34.55
	Information System	18	32.73
	Theology	18	32.73
Year of Study	1 year	16	29.09
	3 Years	19	34.55
	4 Years	20	36.36

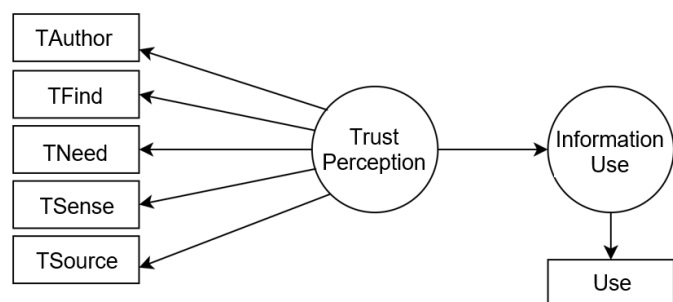


Figure 1. Structural model for measurement.

The responses from the participants were then analyzed based on a structured model that related TP and IU, as in Figure 1.

The names of the five TP indicators in Figure 1 is also used in the result tables and discussion section. TAuthor is an indicator of a trustworthy author; TFind is an indicator of the ease of finding information about the author; TNeed represents the suitability of information and needs; TSense represents reasonable information; and TSource represents a trustworthy provider. The results of measuring the reliability of the TP and IU indicators produced values of > 0.708, indicating that all indicators are reliable [25], [26]. TNeed produced the lowest value on all four websites, with a value range of 0.728 to 0.775, except for TNeed on Website 3, which was 0.850 (Table V).

The reliability measurement with Cronbach's alpha results values for TP across the four websites ranged from 0.853 to

TABLE V  
TP INDICATORS' RELIABILITY OR LOADINGS

Web	TAuthor	TFind	TNeed	TSense	TSource
1	0.817	0.777	0.728	0.780	0.862
2	0.873	0.788	0.738	0.795	0.851
3	0.882	0.856	0.850	0.907	0.887
4	0.863	0.828	0.775	0.858	0.900

0.924, meeting the threshold of > 0.7 [25], [26]. The composite reliability values of both met the threshold of > 0.7 [25], [26]. The rho\_a values ranged from 0.861 to 0.926, and rho\_c ranged from 0.895 to 0.943. Thus, TP is considered significant and reliable as an internally consistent construct with a *P*-value < 0.05.

The AVE values for TP across the four websites ranged from 0.631 to 0.716, indicating that the TP construct explains 63.1% to 71.6% of the variance in the TP indicators. This demonstrates that the indicators effectively measure the TP, and convergent validity is achieved since the AVE values meet the required threshold of > 0.5 [25], [26]. All reliability and validity measurements for TP were significant, with a *P*-value < 0.05. IU, which is measured with a single indicator, did not undergo reliability and validity testing.

Discriminant validity consists of cross-loading, Fornell-Larcker, and HTMT measurement to ensure that each construct has no redundancies. The average loading of TP indicators on TP was consistently higher than TP's on IU across all websites, including Website 1, which had the lowest average loading of TP on TP. Nevertheless, the TP indicators on Website 1 were valid and reliable in measuring TP because their values remained > 0.708. Furthermore, the loading of TP on TP at Website 1 remained higher than that of TP on IU, supporting discriminant validity.

The Fornell-Larcker results showed that TP had a higher correlation with itself than with IU, indicating adequate discriminant validity for the TP construct, except for the Website 1. The correlation of TP with itself is slightly lower than its correlation with IU for Website 1. However, the HTMT values are all below the threshold value, 0.90 [24], indicating that TP and IU are distinct constructs across all websites.

The reliability and validity measurements for the indicators and constructs demonstrate that the five TP indicators are reliable and valid. TP, as a construct, is distinguished from IU, indicating that both are reliable, valid, and distinct. With these conditions, the measurement model has met the requirements to proceed to the structural model testing that relates to TP and IU (Table VI). The structural model assessment evaluated the strength of TP in predicting IU by considering the path coefficient, the model fit as indicated by *R*<sup>2</sup>, and the effect size measured by *f*<sup>2</sup>. The values presented in Table VI show that the relationship between TP and IU is positive and significant across all websites, as indicated by path coefficients greater than 0.79 and *P*-values < 0.05. It means that higher levels of TP are associated with increased IU.

The *R*<sup>2</sup> values suggest that the model explains a moderate level (0.75 > *R*<sup>2</sup> ≥ 0.5) of the variance in IU [24]. The effect size is considered large if the *f*<sup>2</sup> value exceeds 0.35 [24]. The specific *f*<sup>2</sup> values across websites indicate that TP has a substantial effect on IU without multicollinearity (VIF < 5), with more potent effects seen in certain websites (e.g., Website 3 with *f*<sup>2</sup> = 2.858), suggesting that trust in information plays a significant role in determining its use. As one of the results of

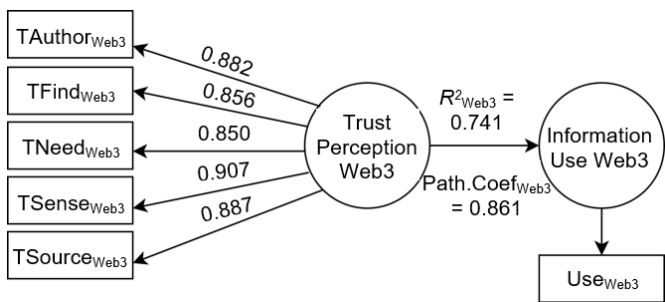


Figure 2. Structural model measurement with value for Website 3.

TABLE VI  
STRUCTURAL MODEL MEASUREMENT

Website	Path coef.	R <sup>2</sup>	f <sup>2</sup>	VIF
1	0.812*	0.659*	1.933*	1 - 3.023
2	0.792*	0.627*	1.678*	1 - 3.113
3	0.861*	0.741*	2.858*	1 - 3.817
4	0.821*	0.673*	2.062*	1 - 3.445

\* Significant with P-value < 0.05  
VIF: variance inflation factor

measuring the structural model, Figure 2 depicts the loading value of each TP indicator, the R<sup>2</sup> value, and the path coefficient, for Website 3.

PLS-SEM measurement produced reliable and valid TP and IU, and the relationship between the two constructs was significant based on the responses of 55 librarians and 55 students in the information evaluation process from 2 English and 2 Indonesian websites.

The participation of two groups facilitates the analysis of the interaction between participant type and participants' responses to each TP indicator using two-way ANOVA with replication. The analysis results indicate that the two types of participants, as shown in Table VII, demonstrate different behaviors when using the indicators to evaluate Websites 2 and 3. For Websites 1, 2, and 4, each indicator was perceived differently by the participants. However, the assessment patterns of the participants for each website show no significant differences between the two types.

TP significantly predicted IU across the four pieces of information evaluated, each sourced from a different website. Librarians considered all four pieces of information as alternative resources for the scenario, while students gave more diverse responses. Students considered Websites 1 and 4 as alternative sources of information for their needs; they expressed hesitation about Website 2 and demonstrated a preference for using Website 3.

IV. DISCUSSION

Trust is defined in various contexts. This study contributes to the understanding of TP in the context of information evaluation, specifically in academic settings, by involving academic librarians and students as participants. Through the processes of searching, grouping, and constructing, this research has developed and validated indicators that measure both TP and IU.

The TP and IU indicators are statements to which participants respond after evaluating information from the website. The statements of the TP and IU indicators are:

1. "I find the website provides information based on user requirements" [TNeed];

TABLE VII  
ANALYSIS OF TWO-WAY ANOVA WITH REPLICATION ON SOURCE OF VARIATION P-VALUES

Web	Participants	Indicator	Interaction
1	0.22800	0.0000004	0.56
2	0.01000	0.0050000	0.50
3	0.00005	0.7990000	0.77
4	0.83600	0.0070000	0.62

P-value < 0.05

2. "I can access information regarding authors, providers, and reference sources" [TFind];
3. "The information makes sense to me" [TSense];
4. "I trust the author" [TAuthor];
5. "I find the website provider trustworthy" [TSource] [35].
6. The single indicator for IU is "I use this information because it is credible" [35]. These indicators are reliable and valid based on PLS-SEM measurements with SmartPLS application.

A. THE INDICATORS

Five indicators explain that in online information evaluation, TP means considering the information being evaluated as easy to understand, answering questions or needs, and being presented by trusted authors and providers whose information can be easily accessed.

TNeed is about the suitability of information to needs. The need for information initiates information search and evaluation activities [18]. In this study, librarians and students had different needs based on the scenario, so information evaluation considered these needs. Librarians need information to produce other information, while students need information to increase their knowledge. The TNeed indicator received a low level of agreement compared to other indicators on each website. It means that participants have different perceptions of the suitability between needs and information. Different needs between types of participants on particular websites or between participants on certain websites are the causes. The reliability of TNeed on the four websites was supported by the ANOVA analysis results, which confirmed that the five indicators were considered different from each other, except for Website 3. The reliability of TNeed for Website 3 was the highest and the only TNeed with high agreement among the other TNeeds (Table V). The suitability of information to needs is not easy to agree on and is one of the significant factors influencing the decision to use information. Assessing the suitability between needs and information is a strong cue [18] and is crucial in evaluating information [13]. Therefore, the suitability of needs and information indicates TP, as mentioned in prior research [52].

The reliability levels of the TAuthor and TSource indicators remained consistently high across all four websites. Participants demonstrated a strong agreement in their assessment of both the author and the information provider, despite the divergent objectives of the two participant groups. Prior research has categorized author competency and information provider as a medium to strong cue in source evaluation, less than information need [18]. This finding suggests that the evaluation of information is strongly influenced by the perceived credibility of the author, as proved in [9] and the trustworthiness of the information provider, as demonstrated in [53].

The other two indicators, TFind and TSense, exhibited similar patterns in terms of reliability. Both demonstrated

moderate reliability on Indonesian-language websites and high reliability on English-language websites. On the Indonesian-language websites, participants showed less agreement regarding the ease of finding author information or TFind. TFind may be related to the design and structure of content or information [54] and the ease of use [55]. Reference [18] mentions that transparency is about the availability of information about authors and information providers and ease of access. This transparency is as important as the author's competence. TFind is related to content and content design. Participants may process information presented in Indonesian more quickly than in English; however, this does not necessarily imply that author competency information is readily accessible during the evaluation process. Thus, TFind is related to the availability of information about authors, providers, reference sources, and the ease of finding or accessing that information.

TSense evaluates how much information aligns with participants' existing knowledge and is perceived as logical. Reference [18] states that the cues about plausible information are more applicable to expert individuals with a deep understanding of the topic being evaluated. This process necessitates reflective engagement with the content, aligning with the reflective dimension of information evaluation as described by [56]. This cue is categorized as weak to medium, recommending that nonexpert individuals disregard low-quality information or rely on alternative evaluation cues [18]. In this study, participants' agreement on TSense indicators was lower for Indonesian information than for English. This difference suggests varying perceptions of the TSense indicators among participants, corroborated by significant differences in indicator assessments on Websites 1 and 2, as revealed by the ANOVA analysis (Table VII).

The contribution of this study lies in the five indicators of TP in online information. TP is described as reasonable information that meets needs, is provided by trusted authors and providers, and includes author information, provider information, and reference sources that are available and easily accessible. Information quality, credibility, and content design are the defining aspects of trust in online health information [9]. The five TP indicators encompass these aspects in greater detail.

The credibility aspect is represented by trusted authors, trusted providers, and available reference sources. The information quality aspect includes reasonable information and the relevance of information to user needs. The content design aspect encompasses the ease of accessing author information, provider information, reference sources, and logical alignment of information with individual knowledge, requiring content to be understandable and readable.

In contrast, TP in online product/service reviews emphasizes information quality [5], trustworthy authors, and information relevance [6] but does not address content design. Similarly, TP in e-government contexts focuses on data security and privacy [3], [4].

Within information evaluation, these five indicators summarize five of the seven cues proposed in the source evaluation strategy concept [18]. The seven cues include the purpose for seeking information, knowledge about the information, author competence, the status of the information (reviewed or not reviewed), transparency of the author and provider, the origin of the information, and the reasonableness of the information. While the evaluation strategy proposed by

[18] represents a conceptual framework that has yet to be explored in applied research, this study operationalized five of these cues: the purpose for seeking information, author competence, transparency of the author and provider, the origin of the information, and the reasonableness of the information. Additionally, the availability of a reference list, which is not included in the seven cues, was identified in this study as a key aspect of TP. Thus, the five TP indicators, alongside the single IU indicator, adequately address the first research question.

## **B. THE RELATION OF TRUST PERCEPTION AND INFORMATION USE**

Based on the measurements, TP significantly predicts IU, with varying predictive strengths across the four websites. These findings address the second research question. This significant prediction is supported by [57], who stated that IU is the final stage of the information evaluation process, with trust mediating the decision to adopt the information.

The significant influence of TP on IU (Table VI) can be linked to participants' decisions to use the information. Website 3 demonstrated the relationship between TP and IU that most closely reflects actual conditions, exhibiting the highest predictive strength of TP and the most substantial relation between TP and IU among the four websites. In contrast, Website 2 demonstrated the weakest TP strength and the lowest relationship between TP and IU with actual conditions. Information assessment on Website 3 led to a level of trust that decisively influenced the decision to use the information. Meanwhile, the TP on IU for Website 2 might involve other factors not included in the model. For instance, [58] found that information updates affect the decision to use information. This indicator might play a role in the model, considering that information on Website 2 is not updated.

The TP-IU relations on Websites 1 and 4 were slightly better than on Website 2, with suitability levels below 68%. These results indicate that additional factors not included in the model may influence IU. Other studies have identified factors that could potentially increase suitability to over 70%. For example, [59] has suggested emotional support, while [60] has highlighted recommendations as other potential predictors of IU.

TP significantly affects IU. At the same time, various factors may influence trust during the information evaluation process. Therefore, the five indicators provide a foundation for investigating factors influencing TP. Furthermore, this TP can be tested with different participant types to enhance its potential for supporting the model's generalization, which was not achieved in this study. The analysis revealed consistent interaction between the two participant types regarding the indicators, but the limited number and diversity of participants did not provide sufficient potential for generalization.

## **C. IMPLICATION ON WEBSITE DESIGN**

Content is the most critical aspect of a website and plays a pivotal role in the evaluation process. Therefore, websites must be optimized to compete for visibility in search engines and attract users who decide whether to use the information within a short period [20]. According to [19], users' primary objective is to obtain high-quality information, making content quality the most crucial factor in drawing readers' attention. Within this limited time, a website must effectively convey its purpose [61] to capture users' interest, ultimately aiming for users to utilize the information presented.

This study describes TP as logical information relevant to needs, provided by trusted authors and providers, and accompanied by accessible author information, provider information, and reference sources. This description confirms and underscores the importance for website content designers to provide content that meets the following criteria to gain user' trust.

#### 1) LOGICAL INFORMATION

The information should exhibit understandability [62] and readability [16], which are closely related to the use of comprehensible language [63] and the organization of the information structure [14].

#### 2) RELEVANCE TO USER NEEDS

The presented information must have a clear scope and purpose, as users seek content that aligns with their specific needs [58], which can vary among individuals. Identifying the target audience is crucial in determining the content [58].

#### 3) AUTHOR COMPETENCE

The authors should possess expertise relevant to the information presented [12].

#### 4) PROVIDER REPUTATION

The website provider or publisher must be reputable [9].

#### 5) AVAILABILITY AND ACCESSIBILITY OF INFORMATION

The author and provider details should be readily available [53]. Additionally, the availability of reference sources is a critical component [14]. The completeness of the information enhances its quality, while ease of access relates to the website's information structure [14]. Simply having the information is insufficient; its placement is equally important to facilitate quick user evaluation.

Therefore, these findings reinforce the recommendations of previous studies regarding website content design, providing actionable guidance for content designers.

## V. CONCLUSION

The current study aimed to develop indicators of TP and IU in the context of information evaluation in academic environments. Indicator development consisted of three processes: searching, grouping, and construction, which produced indicators in the form of statements. Five indicators were found to be reliable and valid in describing TP as plausible information relevant to needs, provided by trusted authors and providers, and accompanied by accessible author information, provider information, and reference sources. IU was described as using information because of its credibility. TP significantly predicted IU with varying predictive strengths and varying model fit at a moderate level across the four websites.

Academic librarians and students' responses to TP and IU described their behaviors related to information evaluation. Differences in needs had the potential to differentiate assessments of the same information. During the evaluation, information in Indonesian was not always easy to understand or align by the participants' logic. Logical or make-sense information was entirely about the quality of information. Participants perceived the indicator of logical information differently, especially on Indonesian-language websites. Information about authors, providers, and references that was easily accessible pertained not only to content but also to design, regardless of the language of the information. Lastly, but importantly, author and provider trustworthiness were not biased towards participant type.

The use of more than four informational websites and additional numbers and types of participants would complement the limitations of this study even though the effort and funds required would also increase. However, these improvements would support the generalization of the research results. In addition, since design factors have not explicitly described TP, further development could explore the potential of design factors as indicators of TP.

## CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

## AUTHORS' CONTRIBUTIONS

Conceptualization Umi Proboyekti, Ridi Ferdiana; methodology, Umi Proboyekti, Ridi Ferdiana, P. Insap Santosa; validation, Umi Proboyekti; investigation, Umi Proboyekti; resources, Umi Proboyekti; data curation, Umi Proboyekti; writing—original draft preparation, Umi Proboyekti; writing—reviewing and editing, Umi Proboyekti, Ridi Ferdiana, P. Insap Santosa; visualization, Umi Proboyekti, P. Insap Santosa; supervision, Ridi Ferdiana, P. Insap Santosa; project administration, Umi Proboyekti.

## ACKNOWLEDGMENT

The authors would like to express my gratitude to Universitas Kristen Duta Wacana (UKDW) for funding this research. The authors wish to extend their gratitude to Indonesian academic librarians and UKDW students for their willingness to participate in the user study. Furthermore, the authors are deeply grateful to the supervisors for their invaluable guidance throughout this research.

## REFERENCES

- [1] Y.W. Sullivan and D.J. Kim, "Assessing the effects of consumers' product evaluations and trust on repurchase intention in e-commerce environments," *Int. J. Inf. Manag.*, vol. 39, pp. 199–219, Apr. 2018, doi: 10.1016/j.ijinfomgt.2017.12.008.
- [2] K.J. Fimberg and S. Sousa, "The impact of website design on users' trust," in *Advances in Creativity, Innovation, Entrepreneurship and Communication of Design*, E. Markopoulos, R. Goonetilleke, A. Ho, Y. Luximon, Eds., Cham, Switzerland: Springer, 2020, pp. 267–274, doi: 10.1007/978-3-030-51626-0\_34.
- [3] T.S. Amosun *et al.*, "Does e-government help shape citizens' engagement during the COVID-19 crisis? A study of mediational effects of how citizens perceive the government," *Online Inf. Rev.*, vol. 46, no. 5, pp. 846–866, Aug. 2022, doi: 10.1108/OIR-10-2020-0478.
- [4] M. Adnan, M. Ghazali, and N.Z.S. Othman, "E-participation within the context of e-government initiatives: A comprehensive systematic review," *Telematics Inform. Rep.*, vol. 8, pp. 1–18, Dec. 2022, doi: 10.1016/j.teler.2022.100015.
- [5] R. Anaya-Sánchez, S. Molinillo, R. Aguilar-Illescas, and F. Liébana-Cabanillas, "Improving travellers' trust in restaurant review sites," *Tour. Rev.*, vol. 74, no. 4, pp. 830–840, Sep. 2019, doi: 10.1108/TR-02-2019-0065.
- [6] A.G. Mumuni *et al.*, "Online product review impact: The relative effects of review credibility and review relevance," *J. Internet Commer.*, vol. 19, no. 2, pp. 153–191, Apr. 2020, doi: 10.1080/15332861.2019.1700740.
- [7] J. Mackiewicz and D. Yeats, "Product review users' perceptions of review quality: The role of credibility, informativeness, and readability," *IEEE Trans. Prof. Commun.*, vol. 57, no. 4, pp. 309–324, Dec. 2014, doi: 10.1109/TPC.2014.2373891.
- [8] S. Lata and A. Kumar, "What determines tourist adoption of hotel websites for online hotel bookings? An empirical analysis by taking e-trust as a mediator," *Int. J. Asian Bus. Inf. Manag.*, vol. 12, no. 3, pp. 1–17, Jul. 2021, doi: 10.4018/IJABIM.294101.
- [9] A. Inthiran, "Trust or do not trust: Evaluation strategies used by online health information consumers in South East Asia," *Inf. Res.*, vol. 26, no. 1, Mar. 2021, paper 886, doi: 10.47989/IRPAPER886.



- [10] M. Khosrowjerdi, "National culture and trust in online health information," *J. Librariansh. Inf. Sci.*, vol. 52, no. 2, pp. 509–528, Jun. 2020, doi: 10.1177/0961000619836716.
- [11] L. Alajramy and A. Taweel, "User perception based trust model of online sources: A case study of misinformation on COVID-19," in *Disinformation in Open Online Media.-MISDOOM 2022*, F. Spezzano et al., Eds., Cham, Switzerland: Springer, 2022, pp. 1–15, doi: 10.1007/978-3-031-18253-2\_1.
- [12] E.K. Hämäläinen, C. Kiili, E. Rääkkönen, and M. Marttunen, "Students' abilities to evaluate the credibility of online texts: The role of internet-specific epistemic justifications," *J. Comput. Assist. Learn.*, vol. 37, no. 5, pp. 1409–1422, Oct. 2021, doi: 10.1111/jcal.12580.
- [13] L. Sbaffi and J. Rowley, "Trust and credibility in web-based health information: A review and agenda for future research," *J. Med. Internet Res.*, vol. 19, no. 6, pp. 1-17, Jun. 2017, doi: 10.2196/jmir.7579.
- [14] L. Vervier, A.C. Valdez, and M. Ziefle, "'In clarity we trust!' - An empirical study of factors that affect the credibility of health-related information on websites," in *Information and Communication Technologies for Ageing Well and e-Health - ICT4AWE 2018*, P. Bamidis, M. Ziefle, and L. Maciaszek, Eds., Cham, Switzerland: Springer, 2019, pp. 83–107, doi: 10.1007/978-3-030-15736-4\_5.
- [15] E. Sillence, J. M. Blythe, P. Briggs, and M. Moss, "A revised model of trust in internet-based health information and advice: Cross-sectional questionnaire study," *J. Med. Internet Res.*, vol. 21, no. 11, pp. 1-14, Nov. 2019, doi: 10.2196/11125.
- [16] F. Johnson, J. Rowley, and L. Sbaffi, "Modelling trust formation in health information contexts," *J. Inf. Sci.*, vol. 41, no. 4, pp. 415–429, Aug. 2015, doi: 10.1177/0165551515577914.
- [17] C.L. Corritore, S. Wiedenbeck, B. Kracher, and R.P. Marble, "Online trust and health information websites," *Int. J. Technol. Hum. Interact.*, vol. 8, no. 4, pp. 92-115, Oct. 2012, doi: 10.4018/jthi.2012100106.
- [18] A. Russo, A. Jankowski, S. Beene, and L. Townsend, "Strategic source evaluation: Addressing the container conundrum," *Ref. Services Rev.*, vol. 47, no. 3, pp. 294–313, Nov. 2019, doi: 10.1108/RSR-04-2019-0024.
- [19] Y. Li, M. Yu, and S. Li, "Technology or content: Which factor is more important in people's evaluation of artificial intelligence news?" *Telematics Inform. Rep.*, vol. 8, pp. 1–7, Dec. 2022, doi: 10.1016/j.teler.2022.100031.
- [20] M.T. Thielsch and G. Hirschfeld, "Quick assessment of web content perceptions," *Int. J. Hum. Comput. Interact.*, vol. 37, no. 1, pp. 68–80, 2021, doi: 10.1080/10447318.2020.1805877.
- [21] M.M. Bhuiyan et al., "Designing transparency cues in online news platforms to promote trust: Journalists' & consumers' perspectives," in *Proc. ACM Hum.-Comput. Interact.*, 2021, pp. 1-31, doi: 10.1145/3479539.
- [22] A. Kohnen, K. Dawson, and G. Mertens, "Three continua of online credibility strategies used by eighth graders," *TechTrends*, vol. 66, no. 4, pp. 643–653, Jul. 2022, doi: 10.1007/s11528-022-00699-9.
- [23] S. Pieschl and D. Sivyer, "Secondary students' epistemic thinking and year as predictors of critical source evaluation of Internet blogs," *Comput. Educ.*, vol. 160, pp. 1-16, Jan. 2021, doi: 10.1016/j.compedu.2020.104038.
- [24] J.F. Hair Jr., G.T.M. Hult, C.M. Ringle, and M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 2nd ed. Los Angeles, CA, AS: Sage, 2017.
- [25] P.I. Santosa, *Metode Penelitian Kuantitatif: Pengembangan Hipotesis dan Pengujiannya menggunakan SmartPLS*. Yogyakarta, Indonesia: Andi, 2018.
- [26] J.F. Hair, J.J. Risher, M. Sarstedt, and C.M. Ringle, "When to use and how to report the results of PLS-SEM," *Eur. Bus. Rev.*, vol. 31, no. 1, pp. 2–24, 2019, doi: 10.1108/EBR-11-2018-0203.
- [27] C. Leeder, "How college students evaluate and share 'fake news' stories," *Libr Inf Sci Res*, vol. 41, no. 3, Jul. 2019, doi: 10.1016/j.lisr.2019.100967.
- [28] M. Derakhshan, M. Hassanzadeh, and M. Nazari, "Developing information literate librarians: A study of LIS academics pedagogical approaches in the development of information literacy competencies," *J. Acad. Librariansh.*, vol. 41, no. 6, pp. 777–785, Nov. 2015, doi: 10.1016/j.acalib.2015.08.021.
- [29] A.M. Salaz, T. MacGregor, and P. Thomas, "Novice and expert information behavior: An eye tracking study from Qatar," in *Inf. Lit., Key Incl. Soc. - ECIL 2016*, Kurbanoglu S. et al., Ed., Cham, Switzerland: Springer, 2016, pp. 364–372, doi: 10.1007/978-3-319-52162-6.
- [30] D. Soper, "A-priori sample size calculator for structural equation models." Access date: 19-Jun-2023. [Online]. Available: <https://www.danielsoper.com/statcalc/calculator.aspx?id=89>
- [31] D. Cyr, M. Head, E. Lim, and A. Stibe, "Using the elaboration likelihood model to examine online persuasion through website design," *Inf. Manag.*, vol. 55, no. 7, pp. 807–821, Nov. 2018, doi: 10.1016/j.im.2018.03.009.
- [32] E. Silva, J. Green, and C. Walker, "Source evaluation behaviours of first-year university students," *J. Inf. Lit.*, vol. 12, no. 2, pp. 24–43, Dec. 2018, doi: 10.11645/12.2.2512.
- [33] Z. (Jack) Jiang, W. Wang, B.C.Y. Tan, and J. Yu, "The determinants and impacts of aesthetics in users' first interaction with websites," *J. Manag. Inf. Syst.*, vol. 33, no. 1, pp. 229–259, Jun. 2016, doi: 10.1080/07421222.2016.1172443.
- [34] M.L. McHugh, "Lessons in biostatistics interrater reliability: the kappa statistic," *Biochemica Medica*, vol. 22, no. 3, pp. 276–282, 2012, doi: 10.1108/14684520710832315.
- [35] U. Proboyekti, P.I. Santosa, and R. Ferdiana, "Measuring trust perception during information evaluation," in *2022 14th Int. Conf. Inf. Technol. Elect. Eng. (ICITEE)*, 2022, pp. 91–96, doi: 10.1109/ICITEE56407.2022.9954094.
- [36] R. Nilpong and B. Thanasopon, "Factors affecting intention to use of government websites in Thai elder: The Webqual model," *2020 12th Int. Conf. Technol. Elect. Eng. (ICITEE)*, 2020, pp. 146–151, doi: 10.1109/ICITEE49829.2020.9271711.
- [37] M. Seckler et al., "Trust and distrust on the web: User experiences and website characteristics," *Comput. Hum. Behav.*, vol. 45, pp. 39–50, Apr. 2015, doi: 10.1016/j.chb.2014.11.064.
- [38] H. Singal and S. Kohli, "Escalation of TRUST analysis in web," in *CF '15, Proc. 12th ACM Int. Conf. Comput. Frontiers*, 2015, pp. 1-6, doi: 10.1145/2742854.2745721.
- [39] L.V. Casalo, C. Flavián, and M. Guinaliú, "The role of security, privacy, usability and reputation in the development of online banking," *Online Inf. Rev.*, vol. 31, no. 5, pp. 583–603, 2007, doi: 10.1108/14684520710832315.
- [40] Y.-S. Chang, Y. Zhang, and J. Gwizdka, "The effects of information source and eHealth literacy on consumer health information credibility evaluation behavior," *Comput Hum. Behav.*, vol. 115, pp. 1-12, Feb. 2021, doi: 10.1016/j.chb.2020.106629.
- [41] D. Cyr, "Website design, trust and culture: An eight country investigation," *Electron. Commer. Res. Appl.*, vol. 12, no. 6, pp. 373–385, Nov.-Dec. 2013, doi: 10.1016/j.elerap.2013.03.007.
- [42] T. Lee, B.K. Lee, and S. Lee-Geiller, "The effects of information literacy on trust in government websites: Evidence from an online experiment," *Int. J. Inf. Manag.*, vol. 52, pp. 1-13, Jun. 2020, doi: 10.1016/j.ijinfomgt.2020.102098.
- [43] B. Ganguly, S.B. Dash, D. Cyr, and M. Head, "The effects of website design on purchase intention in online shopping: The mediating role of trust and the moderating role of culture," *Int. J. Electron. Bus.*, vol. 8, no. 4-5, pp. 302–330, Sep. 2010, doi: 10.1504/IJEB.2010.035289.
- [44] T.D. Wilson, "Models in information behaviour research," *J. Documentation*, vol. 55, no. 3, pp. 249-270, Jun. 1999, doi: 10.1108/EUM0000000007145.
- [45] W. Al Motawah, B. Sen, and P. Willett, "Information use, information needs, and information behavior of graduate students at Kuwait University," *MELA Notes*, no. 93, pp. 51–87, 2020.
- [46] E. Forzani, J. Corrigan, and C. Kiili, "What does more and less effective internet evaluation entail?: Investigating readers' credibility judgments across content, source, and context," *Comput Hum. Behav.*, vol. 135, no. C, Oct. 2022, doi: 10.1016/j.chb.2022.107359.
- [47] C. Kiili et al., "Adolescents' credibility justifications when evaluating online texts," *Educ. Inf. Technol.*, vol. 27, no. 6, pp. 7421–7450, Jul. 2022, doi: 10.1007/s10639-022-10907-x.
- [48] E. Hartono and C.W. Holsapple, "Website visual design qualities: A threefold framework," *ACM Trans. Manag. Inf. Syst.*, vol. 10, no. 1, pp. 1–21, Mar. 2019, doi: 10.1145/3309708.
- [49] I.K. Mensah, C. Luo, and E. Abu-Shanab, "Citizen use of e-government services websites: A proposed e-government adoption recommendation model (EGARM)," *Int. J. Electron. Gov. Res.*, vol. 17, no. 2, pp. 19–42, Apr.-Jun. 2021, doi: 10.4018/IJEGR.2021040102.
- [50] L. Alzahrani, W. Al-Karaghoul, and V. Weerakkody, "Investigating the impact of citizens' trust toward the successful adoption of e-government: A multigroup analysis of gender, age, and internet experience," *Inf. Syst. Manag.*, vol. 35, no. 2, pp. 124–146, Mar. 2018, doi: 10.1080/10580530.2018.1440730.
- [51] M. Aparicio, C.J. Costa, and R. Moises, "Gamification and reputation: Key determinants of e-commerce usage and repurchase intention," *Heliyon*, vol. 7, no. 3, pp. 1–14, Mar. 2021, doi: 10.1016/j.heliyon.2021.e06383.

- [52] S.A. Brown, V. Venkatesh, and S. Goyal, "Expectation confirmation in information systems research: A test of six competing models," *MIS Quart.* vol. 38, no. 3, pp. 729–756, Sep. 2014.
- [53] M. Shayganmehr, A. Kumar, J.A. Garza-Reyes, and E.K. Zavadskas, "A framework for assessing trust in e-government services under uncertain environment," *Inf. Technol. People*, vol. 36, no. 6, pp. 2718–2755, Nov. 2023, doi: 10.1108/IITP-01-2021-0096.
- [54] A.S. Lo and S.S. Yao, "What makes hotel online reviews credible? An investigation of the roles of reviewer expertise, review rating consistency and review valence," *Int. J. Contemp. Hosp. Manag.*, vol. 31, no. 1, pp. 41–60, Jan. 2019, doi: 10.1108/IJCHM-10-2017-0671.
- [55] M.N. Zolotov, T. Oliveira, and S. Casteleyn, "E-participation adoption models research in the last 17 years: A weight and meta-analytical review," *Comput Hum. Behav.*, vol. 81, pp. 350–365, Apr. 2018, doi: 10.1016/j.chb.2017.12.031.
- [56] S.M. Kim and M.J. Hannafin, "The effects of source representation and goal instructions on college students' information evaluation behavior change," *Comput Hum. Behav.*, vol. 60, pp. 384–397, Jul. 2016, doi: 10.1016/j.chb.2016.02.044.
- [57] B.S. Reddy, M. Krishnamurthy, and A.Y. Asundi, "Information use, user, user needs and seeking behaviour: A review," *DESIDOC J. Libr. Inf. Technol.*, vol. 38, no. 2, pp. 82–87, Mar. 2018, doi: 10.14429/djlit.38.2.12098.
- [58] Y. Sun, Y. Zhang, J. Gwizdka, and C.B. Trace, "Consumer evaluation of the quality of online health information: Systematic literature review of relevant criteria and indicators," *J. Med. Internet Res.*, vol. 21, no. 5, pp. 1–22, May 2019, doi: 10.2196/12522.
- [59] J. Jin, X. Yan, Y. Li, and Y. Li, "How users adopt healthcare information: An empirical study of an online Q&A community," *Int. J. Med. Inform.*, vol. 86, pp. 91–103, Feb. 2016, doi: 10.1016/j.ijmedinf.2015.11.002.
- [60] F.D. Davis, R.P. Bagozzi, and P.R. Warshaw, "Extrinsic and intrinsic motivation to use computers in the workplace," *J. Appl. Soc. Psychol.*, vol. 22, no. 14, pp. 1111–1132, Jul. 1992, doi: 10.1111/j.1559-1816.1992.tb00945.x.
- [61] S. Krug, *Don't Make Me Think, Revisited: A Common Sense Approach to Web Usability*. Hoboken, NJ, USA: New Riders, 2014.
- [62] S. Banerjee and A.Y.K. Chua, "Trust in online hotel reviews across review polarity and hotel category," *Comput Hum. Behav.*, vol. 90, pp. 265–275, Jan. 2019, doi: 10.1016/j.chb.2018.09.010.
- [63] M.T. Thielsch and G. Hirschfeld, "Facets of website content," *Hum.-Comput. Interact.*, vol. 34, no. 4, pp. 279–327, 2019, doi: 10.1080/07370024.2017.1421954.