

Research Article

How Media Richness and Interactivity in Hotel Visualization Affect Hotel Booking Intention in Online Travel Agency Applications?

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This study is aimed at clarifying the relationship between media characteristics and intention to book hotels in online travel agencies. This study is based on a quantitative approach using a between-subject experimental method, with a 2×2 factorial design consisting of two types of media richness (high and low) and two types of interactivities (high and low). Research data were obtained from 152 respondents and were processed using the ANOVA and mediation method on the SPSS application. This study found that hotel visualizations with high media richness and high interactivity more significantly influence users' trust, perceived value, and attitudes compared to visualizations with low media richness and interactivity. This research provides practical implications for OTA companies regarding offering features that can support enhanced visualization of hotel displays. This study also contributes to enriching tourism research by comparing levels of media characteristics and their impact on booking intention.

1. Introduction

The development of information technology and the Internet usage is increasing rapidly. Increased numbers of Internet users have shifted business transaction trends from offline to online [1]. Tourism is one of the largest industries to adopt the Internet as a medium for the electronic business revolution [1]. One of the applications of technology in tourism is online hotel bookings through websites or online travel agencies (OTAs) [2]. OTAs are the most popular platform for booking hotels today because they offer a complete and reliable hotel directory collection and provide various useful features [2].

Several aspects that are widely studied in the context of online hotel reservations are related to the functionality of online hotel booking websites, such as their information quality [3, 4], security [4, 5], ease of use of supporting technology [5], and price [6–8]. The online hotel booking pro-

cess has a high risk because the nature of the service cannot be seen directly (intangibility) [9]. Users do not directly feel or see the services provided by the hotel, which can lead to uncertain feelings that reduce users' likelihood of making a purchase [9]. Several studies have analyzed factors that reduce intangibility through rating and review features [3, 9–11]. Ratings and reviews describe previous visitors' experiences to other visitors who will stay in the future [11] to reduce uncertainty. Another feature that can be used to overcome intangibility is visualizing the hotel's appearance through hotel photos.

Visualization of the hotel is essential to helping users to envision what their own future experience will be like. It also allows users to imagine enjoying services, thereby bringing them closer to possible purchases [12]. However, OTA services still use ordinary display visualization (2D) that cannot provide a clear picture of the services offered. This 2D visualization can give users different expectations versus the

actual conditions. Thus, the hotel's appearance needs to be visualized to provide a direct experience and detailed information of the actual conditions.

The solution to overcoming 2D display visualization limitations is to apply components that can encourage telepresence. Telepresence allows users the feeling of being in an environment so that the indirect experience (in this case, ordering online) can be simulated into a direct customer experience [13]. By applying this telepresence concept to online hotel bookings, the user's direct experience can be simulated through the website, enabling users to imagine their future stay experiences [13]. Telepresence can thus provide more detailed and precise information of the actual conditions, thus affecting the user's attitude and behavioral intentions and persuading them to place orders [13].

In OTA applications, one technical feature that can create telepresence in hotel booking is applying high media richness concept. Media richness concept determines which technology best reduces uncertainty and obscurity in a matter [14]. If a medium can communicate rich and detailed information, the information displayed will be more precise [14]. In hotel bookings, media richness can convey key details about the hotel's appearance so that users can clearly visualize the hotel's conditions. Users will feel as if they are in a hotel (telepresence) and will know more about the physical form of the hotel, which will lead to positive behavior toward the hotel. Media richness has been implemented on various websites or applications but has not been found in OTA applications for hotel booking processes [14–18].

Furthermore, interactivity can provide a more meaningful visualization of a hotel display [18, 19]. Interactivity is the ability of the user to manipulate the shape of the image visualization or content in real time [20]. In hotel bookings, interactivity allows users to display visualizations as they wish, such as by zooming in, zooming out, or rotating images. The combination of media richness and interactivity can enhance the information received by the user because it offers high demonstrability [21]. This can positively influence user trust and behavior in OTA, increasing user intentions to make hotel bookings [19].

The effect of media richness and interactivity on user intention to book a hotel on OTA platforms has not been widely studied. Hence, this study is aimed at answering the following research question (RQ): how do media richness and interactivity influence users' intention to book a hotel through OTAs? This study uses trust, attitude, and perceived value as mediating variables because these three variables have been shown to have a mediating role in the relationships between media characteristics [13, 18, 19] and have been widely used in relation to the intention to book hotels [5, 8, 13, 22].

This study presents practical implications for the hospitality industry, especially hotel booking services through OTAs. OTAs can gain insights regarding the development of photovisualization features (e.g., photos of hotel facilities and rooms) to provide a pleasant experience to prospective guests and increase their intentions to make hotel bookings.

2. Literature Review

This section describes the concepts used in this study, including media richness, interactivity, trust, perceived value, and attitude.

2.1. Media Richness. Media richness is defined as objective characteristics that determine a medium's ability to communicate rich information, such as feedback and communication skills, language variation, and personal focus [23]. This concept was developed based on the lack of clarity and ambiguity in information, which needs to be reduced to improve the user experience of communicating and understanding messages [14, 17, 23]. In a multimedia-based study, media richness was divided into a 3D visualization with high media richness and a 2D visualization with low media richness [18, 24]. 3D visualization can make users feel as if they were physically in a room. In the context of hotel booking activities, users can explore a room from various angles to enrich the information displayed [18]. In contrast, 2D visualization is categorized as having low media richness because it can only provide one perspective; for example, users can only see pictures of a room when booking a hotel.

The hierarchical division of media richness is based on four criteria [16, 23]. The first criterion is feedback; hotel booking activities must provide feedback quickly so it is possible to ask questions about the hotel and provide corrections. The second criterion is cueing. Collections of cues in hotel bookings can include physical presence, sound inflections, gestures, words, numbers, and graphic symbols to facilitate the relationship between interpretation and meaning, not just information or data. The third criterion is language variation. Online media can convey information in hotel bookings using language, symbols, or numbers to provide greater precision. The last criterion is personal focus. To enhance personal focus, messages in hotel bookings can be adjusted to the preferences, needs, perspectives, or current conditions of the message recipient.

2.2. Interactivity. Interactivity is one of the benefits of Internet technology [19, 22]. Interactivity is users' real-time ability to modify forms and content [20], and it has been studied in various contexts, including hotel bookings. Interactivity also refers to the technical attributes of a mediated environment that allow for reciprocal communication or information exchange, which can provide interactions between communication technology and users or between users and technology [25].

In multimedia research, interactivity is divided into high and low interactivity [18]. High interactivity in hotel bookings enables users to manipulate or control the display visualization content. In contrast, users cannot manipulate the content or control the visualization in low interactivity media. The same concept of interactivity was adopted in this study. The interactive component of hotel bookings allows users to manage the flow of information, such as the type of information they want to see and how that information will be displayed [21]. High interactivity can provide

interaction experiences with products or services. These interactions give users the same feeling as carrying out direct interactions (touching or feeling the surrounding environment), so users can explore product or service details [26]. Interactivity thereby increases user understanding of the product or service and encourages users to make hotel bookings.

2.3. Trust. Trust is essential for online services' success [5, 27]. In online services, trust is defined as a subjective belief that an online service will fulfill the transactional obligations given to its users [5, 11]. Trust is the foundation for building long-term business relationships and partnerships [28]. Furthermore, trust is needed to meet buyers' needs and to produce satisfactory results during online transactions [27]. The relationship between buyers and the electronic market (e-marketplace) must be based on mutual trust.

Trust is a critical component to consider in this study to determine its effect on customer intentions to book hotels through OTAs. In this study, trust is defined as customer confidence that the hotel can provide services according to customer expectations. Trust is vital in reducing customers' uncertainty and promoting the intention to make actual purchases [29] or hotel bookings.

2.4. Perceived Value. Perceived value is one of the most critical factors in consumer purchasing decisions [30]. Perceived value can be defined as the overall consumer assessment of a product or service utilities based on perceptions of what is given and received [8, 30, 31]. Another study interpreted perceived value as a form of consumer anticipation about the results of purchasing a product or service based on future benefits and sacrifices [30]. Hence, perceived value is closely related to customer demand [30], and perceived value is related to customer preferences in various ways.

There are two types of perceived value: utilitarian and experiential [8, 32]. Utilitarian value is an overall assessment of functional benefits, including price savings, service advantages, time savings, and product selection dimensions. In contrast, experiential value represents the overall experiential benefits of entertainment, visual attractiveness, and interactivity in online shopping [8].

Previous studies have proven that perceived value has a role in increasing customer intention to make purchases [8, 30, 31, 33, 34]. Moreover, perceived value indicates repeated purchases from a customer [34]. Online hotel reservations and e-commerce share the same process characteristics. In this study, perceived value can be defined as the ability of visualization to fulfill utilitarian values (time or effort savings, risk reduction, and alternatives) and experiential value (entertainment, visual attractiveness, intrinsic pleasure, and emotional satisfaction) when users interact with hotel services.

2.5. Attitude. Attitude is an individual's mental state, shaped according to how people structure their perceptions of their social world and their reactions to it [9]. Attitudes toward hotel bookings can be effected by several things, such as

other individuals (e.g., celebrities, politicians, or managers), products (e.g., the best and worst hotels), places, or behavior [9]. Attitude consists of three components: cognitive, affective, and conative [9]. In hotel bookings, the cognitive component represents knowledge or trust about the hotel, the affective component refers to the overall feeling of the hotel and its components, and the conative component is the actual behavior or behavioral intention toward the hotel bookings. The more positive the components of this attitude are toward an object, the greater their intention to take an action (e.g., booking a hotel) will be [9, 18, 35]. In addition, a positive attitude can increase one's intention to visit a hotel [18].

3. Research Model and Hypotheses Development

This section explains the development of the research model and the hypotheses.

3.1. Research Model. This study compiled a research model by adopting several theories and models from previous studies. The original research model that became the primary reference was the model developed by Lu et al. [18]. This model uses two concepts of media characteristics of images, namely, media richness and interactivity. Media richness is divided into high media richness (3D) and low media richness (2D), and interactivity is divided into high and low interactivity.

Trust, perceived value, and attitude mediate between media richness, interactivity, and intention to book a hotel. Previous research has shown that trust has a vital role in increasing users' intention to book hotels [5, 8, 22]. Furthermore, someone's trust in hotel can mediate the relationship between media characteristics and behavioral intentions [9]. Perceived value has a significant role in determining a person's behavioral intention [8, 22]. Customers can feel experiential value through the display visualization, entertainment, and interactivity when shopping [8]. The third mediating variable is attitude. Attitude is an essential driving factor for customers when making reservations for a hotel [5, 13, 22]. Attitude can also mediate the relationship between media richness and interactivity and intention to book a hotel [18]. The research model proposed in this study is presented in Figure 1.

3.2. Hypothesis Development. Media richness denotes a media's ability to convey various types of information. The higher the media richness, the more explicit the information will be [18]. In this study, high media richness consists of visualizations that can provide detailed hotel information by displaying all sides or angles of an object or space in 3D [18]. In contrast, low media richness is an ordinary visualization that only displays one perspective (2D) [18]. The more detailed the hotel visualization is, the more users can understand the hotel's services. Previous research has shown that media richness can affect customer trust in the services displayed [18]. Providing a visual with high media richness is showed to provide a clearer picture, thus minimizing

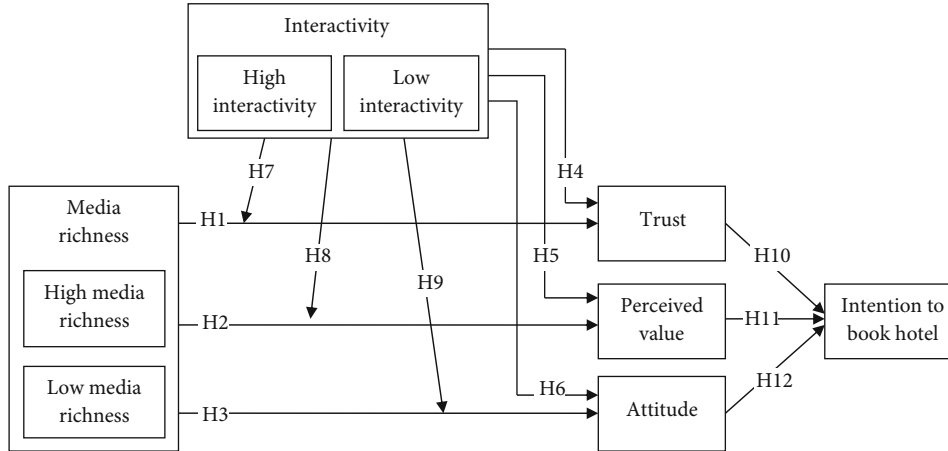


FIGURE 1: Research model.

TABLE 1: Participant's demographics.

Demographic variables	Total	%	
Age	17-25 years	90	59.21.33%
	26-35 years	26	17.1%
	36-45 years	7	4.6%
	>45 years	29	19.07%
Gender	Male	68	44.73%
	Female	84	55.26%
Occupation	Student	78	51.31%
	Private employee	47	30.92%
	Civil servant	12	7.89%
	Entrepreneur	9	5.92%
	Other	6	3.95%
Education	High school	15	9.87%
	Diploma	6	3.95%
	Bachelor	109	71.71%
	Magister	21	13.81%
	Doctoral	1	0.66%
Hotel booking frequency	Once a year	49	32.24%
	2-3 times a year	69	45.39%
	4-6 times a year	16	10.52%
	7-10 times a year	5	3.29%
	>10 times a year	13	8.55%

customer uncertainty and risk [12]. Hence, OTAs that offer image visualizations with high media richness are expected to increase higher user trust in hotels. The research hypothesis is therefore formulated as follows.

Hypothesis 1. Hotel visualization with high media richness has a more significant influence on trust than hotel visualization with low media richness.

When discussing media characteristics, utilitarian value is frequently used to explain perceived value. Utilitarian

value is defined as functional benefits that save time or effort, reduce risk, and increase the likelihood of finding better alternatives [8, 32]. Visualizations with high media richness can convey more information than those with low media richness and can thus influence utilitarian value [18]. In hotel bookings, visualizations with high media richness enable rich and precise information to be conveyed. Thus, high media richness can better fulfill utilitarian values compared to low media richness. The research hypothesis is therefore formulated as follows.

Hypothesis 2. Hotel visualization with high media richness has a more significant influence on perceived value than hotel visualization with low media richness.

A customer's positive attitude is an essential indicator of further action [36]. Electronic commerce is an indirect experience that prevents the user from physically seeing the product or service, which makes it difficult for them to form an attitude. Media richness has been proven to help shape attitudes toward online products or services [18]. Hotel booking visualization with high media richness can provide a clearer picture of the hotel, making the indirect experience similar to the direct experience. Thus, the research hypothesis is formulated as follows.

Hypothesis 3. Hotel visualization with high media richness has a more significant influence on user attitude than hotel visualization with low media richness.

Interactivity can be divided into high interactivity and low interactivity [18]. Previous research has demonstrated that interactivity can affect customer trust in a service [18] but that studies do not distinguish between the effects of high interactivity versus low interactivity. In hotel bookings, visualization with high interactivity can provide a better experience for users that is more similar to direct experiences because they can explore the product or service in detail [26]. Hotel visualization with high interactivity will increase the user's understanding of the hotel and encourage trust. Thus, the research hypothesis is formulated as follows.





Variable	High interactivity	Low interactivity
High media richness	<ul style="list-style-type: none"> Visualization appearance 360 (3D) Control (zoom-in, zoom-out, pan, and drag) 	<ul style="list-style-type: none"> Visualization appearance 360 (3D)/ quick video Without control (no interactivity) 
Low media richness	<ul style="list-style-type: none"> Visualization appearance 2D Control (zoom-in, zoom-out, pan, and drag) 	<ul style="list-style-type: none"> Visualization appearance 2D Without control (no interactivity) Select other image to see the other side 

FIGURE 2: Research Attribute Components Adopted from Lu et al. [15].

Hypothesis 4. Hotel visualization with high interactivity has a more significant effect on trust than hotel visualization with low interactivity.

Interactivity is related to perceived value through experiential value. Experiential value represents the entertainment, intrinsic pleasure, emotional satisfaction, visual appeal, and interactions involved with online shopping [8]. Visualization with high interactivity allows users to interact with the services and have a pleasant entertainment experience [8, 13]. For example, when users interact with the hotel room visualization on an OTA, they will feel like they are interacting with the room directly, which will create a pleasant entertainment experience for users. This study predicts that hotel visualization with high interactivity will encourage higher perceived value toward hotels compared to low interactivity visualizations. Thus, the research hypothesis is formulated as follows.

Hypothesis 5. Hotel visualization with high interactivity has a more significant effect on perceived value than hotel visualization with low interactivity.

A positive attitude increases a person's intention to book travel services [5]. Attitudes to electronic commerce are difficult to form because users have an indirect experience with products and services [13]. High interactivity will provide an experience similar to direct experience and is therefore predicted to form a positive attitude. Thus, the research hypothesis is formulated as follows.

Hypothesis 6. Hotel visualization with high interactivity has a more significant effect on attitude than hotel visualization with low interactivity.

It is essential to consider the combined effect of media richness and interactivity to create a rich display visualization. The combination of high media richness and high interactivity will give users the feeling of being in the place and feeling or touching products or services [13, 24, 37]. When booking a hotel, high interactivity encourages users to explore the services further and promotes trust and a positive attitude [24]. In addition, high interactivity and high media richness can provide utilitarian and experiential value [32, 37]. Thus, we formulate the following hypothesis.

Hypothesis 7. Hotel visualizations (with high or low media richness) accompanied by high interactivity will have a more significant effect on trust than visualizations with low interactivity.

Hypothesis 8. Hotel visualizations (with high or low media richness) accompanied by high interactivity will have a more significant effect on perceived value than hotel visualizations with low interactivity.

Hypothesis 9. Hotel visualizations (with high or low media richness) accompanied by high interactivity will have a more significant effect on attitude than hotel visualizations with low interactivity.

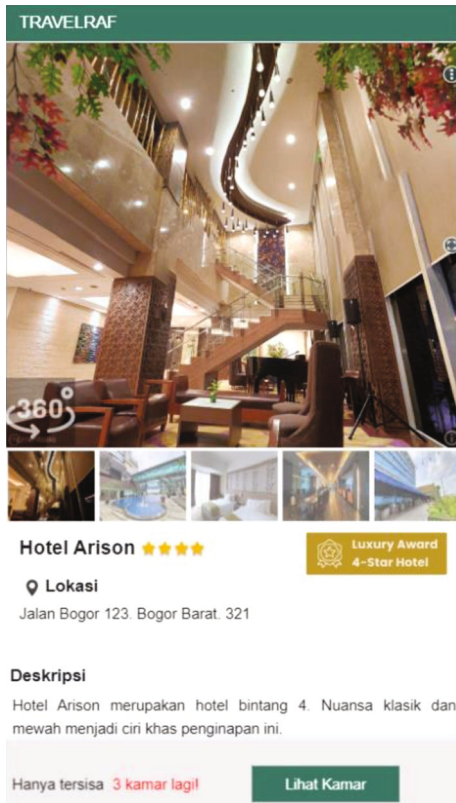


FIGURE 3: Website prototype with high media richness and high interactivity.

In hotel bookings through OTAs, trust is defined as customer confidence that the services provided are what they expect. Trust is important in reducing feelings of uncertainty [29]. Previous research has proven that trust positively affects intention to book a hotel [5, 29]. However, these results must be confirmed again in an experimental environment focused on media richness. In this study, users' trust in a hotel is expected to affect their intention to make a hotel booking. In addition, trust can mediate the relationship between media richness and the intention to visit a place [18]. It is therefore predicted that trust will also mediate the relationship between media richness and intention to book hotels through OTAs. Thus, the following research hypothesis is formulated.

Hypothesis 10. Trust positively influences the intention to book hotels and mediates the relationship between media richness and the intention to book hotels.

Perceived value is the customer's assessment of the product or service's utility, and higher perceived value positively influences the intention to book a hotel [8]. One study found perceived value to be the primary determinant of behavioral intention [38] and that it mediates the relationship between media richness and behavioral intention [32]. In this study, perceived value, based on both utilitarian and experiential values, is expected to influence the intention to book a hotel. Moreover, the completeness and detail of information about

the hotel (i.e., media richness) is predicted to result in a positive user assessment of the hotel, which will increase intention to book. Thus, the following research hypothesis is formulated.

Hypothesis 11. Perceived value positively influences the intention to book hotels and mediates the relationship between media richness and the intention to book.

Previous research has indicated that positive attitudes influence purchase intentions, including the intention to purchase tourism services [5, 39]. Attitude has also been demonstrated to mediate the relationship between media richness and intention [18]. In this study, it is predicted that user attitudes toward hotels in OTA services are related to intention to book. In addition, attitude may also mediate the relationship between media richness and hotel booking intention. Thus, the research hypothesis is formulated as follows.

Hypothesis 12. Attitude positively influences the intention to book hotels and mediates the relationship between media richness and intention to book.

4. Methodology

This study is based on a quantitative approach and uses a between-subject experimental method with a 2×2 factorial design consisting of two types of media richness (high and low) and two types of interactivity (high and low). Therefore, the research instrument required four questionnaire variations and websites.

4.1. Participants. Participants had previously made hotel bookings through OTAs. There was a total of 152 participants ($N = 152$). Most participants were 17–25 years old. Most had sufficient experience making hotel bookings through OTAs, defined as making bookings at least 2–3 times a year and using OTAs for 2–5 years. Participants were 44.73% male and 55.26% female. Details of participants' demographics are presented in Table 1.

4.2. Experimental Scenario Design. A website was specifically designed for this research. The hotel visualization consisted of regular photos, videos, and 360-degree views. Two media characteristics were included: manipulation and control of the display visualization. Manipulation relates to media richness variables, namely, high media richness (3D) and low media richness (2D). Control represents the interactivity variable, which consists of high and low interactivity. An overview of these components is given in Figure 2. Based on the predetermined visualization attributes, the combination of attributes in this factorial design forms four different treatment types.

- (1) The first condition is visualization with high media richness and high interactivity. High media richness is indicated by 360° views, and a free control feature

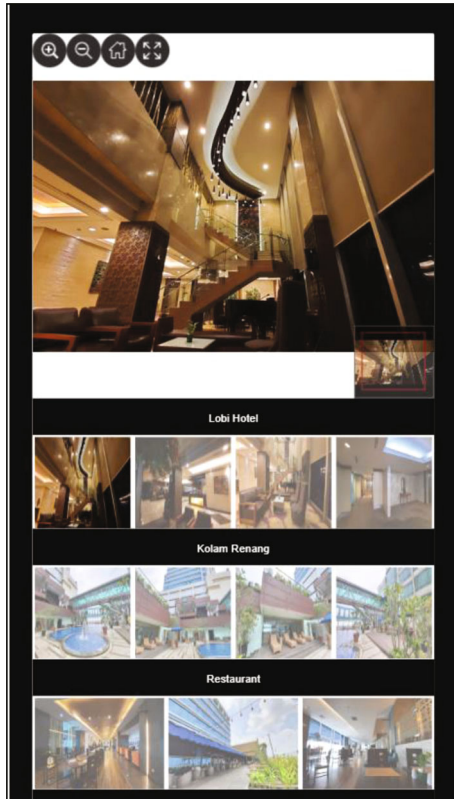


FIGURE 4: Website prototype with low media richness and high interactivity.

- (rotate right and left, maximize, minimize, and shift) indicates high interactivity (see Figure 2, number 1)
- (2) The second condition is visualization with high media richness and low interactivity. Figure 2, number 2 shows that the visualization is 360° but offers no control. The low interactivity in this scenario involves only a quick video that rotates in one direction without any control feature
 - (3) The third condition is visualization with low media richness and high interactivity (Figure 2, number 3). Low media richness is indicated by 2D visualization that only shows a one-sided view
 - (4) The fourth condition is visualization with low media richness and low interactivity (Figure 2, number 4). The hotel's visualization is static or 2D without control features in this condition

We developed four types of website prototypes based on the above conditions. We created a prototype using PHP programming language with the Laravel framework. Online focus group discussion (FGD) was conducted with experts to ensure that the prototypes developed adhered to the research objectives. The FGD was conducted with nine participants: one person who was a working professional, two students majoring in communication science (communication experts), and six information system students (experts who understand an application feature's functionality). Inputs

TABLE 2: Reliability test results.

Variable	Cronbach's alpha	No. of items
Trust	0.888	4
Perceived value	0.854	4
Attitude	0.909	4
Booking intention	0.829	4

from the FGD participants were used to make final adjustments to the prototype. Figures 3 and 4 show examples of website prototypes.

4.3. Instrument Development and Data Collection. The research variables were adopted from instruments developed in previous studies and were measured with a 7-point Likert scale. The complete questionnaire is available in the Supplementary Material file (available here). The data collection process was carried out online to quickly reach a wide range of respondents with diverse demographics. Online questionnaires were distributed through the social media platforms of Instagram, Twitter, Line, WhatsApp, and Facebook. Each respondent was assigned a research scenario. Respondents had to open and observe the website prototype based on the type of questionnaire they received and then had to fill out the questionnaire based on their experience with the prototype.

According to central limit theory (CLT), the sampling distribution for a sample size of 30 or more will be close to the normal distribution [40]. Therefore, the minimum number of respondents for the four scenarios was 120 people in this study. While collecting data, the authors continued monitoring the number of respondents in each scenario to ensure they were even.

4.4. Data Analysis. Data processing and analysis were carried out using IBM SPSS version 25. The first stage in data processing was validating the data by removing inconsistent data, duplicate data, incomplete data, and outliers. The next step involved performing a manipulation check test for media richness and interactivity variables. After each variable passed the manipulation, validity, and reliability tests, hypothesis testing was done. The hypothesis was tested using two-way ANOVA, one-way ANOVA, and mediation analysis.

5. Results

This section explains the data collection and processing results, including the results of the manipulation checks and data analysis. Based on the respondent data validation results, out of 175 data points, only 152 points were valid. This study had four scenarios, so each scenario had 38 data points.

5.1. Manipulation Check. The manipulation checks consisted of validity tests, reliability tests, and independent *t*-tests. Validity tests are carried out to ensure that an instrument measures what it stipulates, while a reliability test determines whether an instrument is consistent in various situations

TABLE 3: Results of two-way ANOVA and one-way ANOVA.

Hypotheses		F	Sig.	Notes
Two-way ANOVA				
H1	MR → TR	25.308	0.001	Significant
H2	MR → PV	18.523	0.001	Significant
H3	MR → AT	16.250	0.001	Significant
H4	IR → TR	29.147	0.001	Significant
H5	IR → PV	10.232	0.002	Significant
H6	IR → AT	26.251	0.001	Significant
H7	MR*IR → TR	7.622	0.006	Significant
H8	MR*IR → PV	2.845	0.094	Not significant
H9	MR*IR → AT	6.175	0.014	Significant
One way ANOVA				
H7	MR * IR → TR	High MR 4.934 Low MR 25.710	0.029 0.001	Significant Significant
H9	MR * IR → AT	High MR 4.403 Low MR 22.252	0.039 0.001	Significant Significant

TABLE 4: Descriptive statistic for Hypotheses 1–6.

Hypotheses		Mean		Decision
		High MR	Low MR	
H1	MR → TR	5.806	5.266	Accepted
H2	MR → PV	5.816	5.329	Accepted
H3	MR → AT	5.763	5.283	Accepted
H4	IR → TR			Accepted
H5	IR → PV			Accepted
H6	IR → AT			Accepted

TABLE 5: Descriptive statistic for Hypotheses 7–9.

Hypotheses	Condition	Mean		Decision
		High IR	Low IR	
H7	MR * IR → TR	High MR 5.947 Low MR 5.704	5.665 4.829	Accepted
H8	MR * IR → PV	—	—	Rejected
H9	MR * IR → AT	High MR 5.915 Low MR 5.730	5.612 4.835	Accepted

[41]. Finally, the independent t -test is aimed at determining whether significant differences exist between the two manipulation conditions (high and low).

The media richness and interactivity variables consisted of two question items coded MR1, MR2, IR1, and IR2. We used Pearson's r correlation coefficient on SPSS to test the instrument's validity. Based on the validity test results, all questions' significance value is below 0.01 at the alpha level of 0.01, which indicates that the question items have a valid relationship. Cronbach's alpha value must be at least at 0.6 [42, 43]. According to the results, Cronbach's alpha for each

variable is more than 0.6 (MR = 0.641; IR = 0.715), so the question items are valid and consistent.

The next stage compared the average of the two groups in each variable using an independent t -test [41]. The data comparisons were between high and low media richness and high and low interactivity. The homogeneity test results must show that each variable's questions have homogeneous data and Levene's test value greater than 0.05. Levene's test results yielded a value of 0.727 for the MR variable and a value of 0.308 for the IR variable, so the results pass the independent t -test.

5.2. Data Analysis. Data analysis was carried out in two stages: (1) preanalysis and (2) data hypothesis testing using the SPSS application. The preanalysis stage comprised the ANOVA assumption test and validity and reliability tests. The assumptions that must be met in ANOVA are independence, assumption of normality, and homogeneity of variance [44]. This study used four independent scenarios with different data and instruments to fulfill the assumption of independence. The normality test was done using the Shapiro-Wilk test, while homogeneity was measured using Levene's test [41]. We applied the bootstrapping method with 1,000 data samples to meet the needs of the normality and homogeneity tests.

In testing the validity of Pearson's r correlation coefficient, the resulting significance value was below 0.01, which indicates that all question items were valid. In the reliability test, Cronbach's alpha value for all variables was above 0.6; hence, the question items were valid and consistent. Reliability test results are included in Table 2.

Hypothesis testing was done using two-way ANOVA. The two independent variables were media richness (MR) and interactivity (IR), and the three dependent variables were trust (TR), perceived value (PV), and attitude (AT). Further analysis was performed using descriptive statistics to compare the mean of the two conditions in the MR and IR variables. A relationship was considered significant if the significance value was less than 0.05. The two-way ANOVA test for Hypothesis 8 yielded insignificant results, so the test was not continued, and the hypothesis was rejected. For Hypothesis 7 and Hypothesis 9, the interaction relationship between MR and IR variables was further analyzed using one-way ANOVA. The two-way and one-way ANOVA results are presented in Table 3.

Further comparison of the scenarios (high or low MR and high or low IR) is available in the descriptive statistics in Tables 4 and 5.

For Hypothesis 10, Hypothesis 11, and Hypothesis 12, we examined the effect of variables of trust, perceived value, and attitude on booking intention. In addition, we analyzed the mediating effect of these three variables on the relationship between media richness and booking intention. Hypothesis testing was done using linear regression on the SPSS application. The results of the linear regression test are shown in Table 6.

Based on the hypothesis testing, only one hypothesis (R8) was rejected, implying that there is no moderation

TABLE 6: Linear regression for Hypotheses 10, 11, and 12.

Hypotheses			β	<i>p</i> value	Decision
Hypothesis 10	MR → TR → BI	MR → BI	0,051	0,383	Accepted
		MR → TR	0,224	0,005	
		TR → BI	0,705	0,001	
Hypothesis 11	MR → PV → BI	MR → BI	-0,019	0,661	Accepted
		MR → PV	0.262	0.001	
		PV → BI	0.870	0.001	
Hypothesis 12	MR → AT → BI	MR → BI	0,062	0,291	Accepted
		MR → AT	0,211	0,009	
		AT → BI	0,700	0,001	

effect of interactivity to the relationship between media richness and perceived value.

6. Discussion

This study used three moderating variables to analyze the effect of media richness and interactivity on hotel booking intention: trust, perceived value, and attitudes. Based on the hypothesis testing, high media richness has a more significant effect on trust, perceived value, and attitude toward hotels than low media richness. The results of this study are in line with Lu et al. [18]. High media richness in OTA websites provides rich information by displaying all corners or sides of a space. Thus, high media richness can better meet customer information needs, provide utilitarian value, and appeal to the affective and cognitive components of user attitude.

This study also demonstrates that the interactivity of the OTA significantly affects trust, perceived value, and customer attitude toward hotels. The effect of interactivity on trust is in line with [18]. Furthermore, this study proves that high interactivity has a more significant effect on trust, perceived value, and customer attitude toward hotels than low interactivity. In OTA applications, high interactivity enables users to understand a product or service better and fosters trust. This result is in line with [27], who stated that trust is created when users can better understand the product or service and when a relationship is built between the service or product and the user. This study is also in line with [9], who argued that user interaction affects attitude. Apart from affecting trust and attitude, interactivity also affects perceived value.

This study also found that the combination of media richness and high interactivity has a stronger effect on the user's trust and attitude than low interactivity. This is in line with [32], who maintained that telepresence (i.e., interaction through media richness and high interactivity) has a significant effect on forming a positive attitude toward product providers or online services. Moreover, these results reinforce that interactive visualization encourages a positive attitude [12]. However, this study does not prove any relationship between media richness/interactivity and perceived value; this is because hotel bookings in OTAs do not provide a complete shopping experience, hindering users from gaining value from the activities [31].

Finally, this study proves that trust, perceived value, and attitude influence the intention to book a hotel. This result is in line with [5, 8, 29, 45]. These three variables (trust, perceived value, and attitude) mediate the relationship between media richness and booking intention with complete mediation. The complete mediation indicates that the relationships between media richness and booking intention are significantly affected by trust, perceived value, and attitude.

7. Implications

This research enriches the application of media richness and interactivity theory to image visualization in hotel bookings. This study empirically proves that media richness and interactivity significantly affect the trust, perceived value, and attitude of OTA users. Visualization with high media richness and high interactivity has a more significant effect on intention to book hotel than low media richness and low interactivity. These findings confirm previous studies comparing 3D and 2D media content for online products or services [18, 24, 26].

In addition, this study also determined that trust, perceived value, and attitude mediate the relationship between media richness and the intention to book hotels. The resulting mediating effect is complete mediation, which means that these three variables strongly affect the relationship. Among the three mediating variables, attitude has the strongest mediating effect (Beta = 0.2097).

This research has several practical implications for OTA companies and hoteliers in Indonesia. According to the study's results, media richness and interactivity significantly influence users' intention to book a hotel via OTAs. Therefore, OTAs should provide features that can support the visualization of hotel displays, such as videos, control features (e.g., zoom-in, zoom-out, and slide) for 2D pictures, and 360° visualizations. Hotels are also expected to display products/services in detail to encourage user trust, positive attitudes, and higher perceived value, all of which enhance the intention to book.

8. Conclusion

This study analyzed media richness and interactivity effects on hotel booking intention. This study discovered that hotel

visualizations with high media richness (3D) have a higher and more significant impact on trust, perceived value, and attitude than those with low media richness (2D). This study also found that high interactivity has a more significant effect on trust, perceived value, and user attitude than low interactivity. Interactivity mediated the relationship between media richness, trust, and attitude, with the effect of high interactivity being more significant than that of low interactivity. However, this moderation effect was not proven for the perceived value variable. Finally, this study indicates that trust, perceived value, and attitude positively influence the intention to book a hotel. These three variables also fully mediate the relationship between media richness and hotel booking intention.

This study has several limitations. First, an ordinary smartphone camera captured the hotel display. As a result, the 360° visualization did not produce optimal results. Future research can use a different device to create 360° visualizations for better visualization results. Second, the media richness attribute only focused on visualizing the display and did not consider other aspects. Future research can develop high media richness attributes by considering other components, such as audio components. Third, this study only considered one type of hotel in the prototype. Future research can add more independent variables, such as a brand image or star hotel category, so the factorial design becomes more complex. Future research can also use other mediating variables for media richness relationships to further develop the research model. Lastly, this study encountered difficulties ensuring a balanced number of participants for each scenario. Therefore, future research may consider conducting experiments offline to ensure the treatment goes according to the initial design.

Data Availability

The data used to support the findings of this study are available from the corresponding author upon request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

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Supplementary Materials

The complete questionnaire is available in the Supplementary Material file. (*Supplementary Materials*)

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