

## METROPOLIS GZM RESIDENTS' ACCEPTANCE OF SUSTAINABILITY MESSAGING FROM ACCOMMODATION PROVIDERS

Paulina RUTECKA

University of Economics in Katowice, Department of Informatics; paulina.rutecka@uekat.pl,  
ORCID: 0000-0002-1609-9768

**Purpose:** The article aims to explain the mechanisms behind the reception and acceptance of sustainability messages formulated by companies within the accommodation sector among GZM residents, with particular focus on the key determinants of this process.

**Design/methodology/approach:** The study employed a structured questionnaire comprising 25 questions, administered to a sample of 800 adult residents of the Upper Silesian-Zagłębie Metropolis to collect data. To verify the hypotheses and investigate the proposed relationships, the Partial Least Squares Structural Equation Modeling (PLS-SEM) method was employed. The research model consisted of six constructs.

**Findings:** The analysis results confirmed all hypotheses, indicating that consumers positively accept sustainable development communication from accommodation providers and do not perceive a decrease in service quality, contrary to widely cited industry fears.

**Research limitations/implications:** Future research should incorporate a nationwide representative sample and consumer segmentation (e.g., using cluster analysis) to provide more specific guidance for accommodation providers.

**Practical implications:** The findings of the study have significant implications for tourism sector representatives, local authorities, and marketing specialists in creating more effective and targeted sustainability communications. Understanding what influences acceptance will allow entrepreneurs to build a deeper relationship with the local community, which is key to their image and development.

**Social implications:** The study identified factors influencing the acceptance of sustainability communication, which can be a significant suggestion for local authorities in developing campaigns concerning ecological awareness and fostering pro-social attitudes.

**Originality/value:** The study proposes an original model of sustainability communication acceptance factors.

**Keywords:** sustainable development, tourism enterprises, sustainable communication, acceptance model.

**Category of the paper:** Research paper.

## 1. Introduction

Communication by organizations about activities implementing the assumptions of sustainable development or Corporate Social Responsibility (CSR) concepts is gaining popularity. This trend is largely driven by the introduction of legal regulations mandating reporting, such as the Corporate Sustainability Reporting Directive (CSRD), according to which the obligation to report on ESG will cover further groups of enterprises in the coming years (Bujalski, 2024) and the Corporate Sustainability Due Diligence Directive (CSDDD or CS3D), announced in July 2024 (Ministerstwo Funduszy i Polityki Regionalnej, 2024). However, the reporting obligation is not the sole motivation for introducing communication regarding sustainable development and CSR activities. Many enterprises choose to inform consumers about their initiatives to improve their image or to emphasize the fact that sustainable development has become an essential element of their business strategy. Thus, communicating about these activities becomes a fundamental element of corporate communication strategy, shaping the company's reputation and brand perception (Deni Saputra, Hanutama, 2025).

Although the Silesian Voivodeship is often stereotypically perceived as a touristically unattractive region due to historical pollution resulting from heavy industry (Gawroński et al., 2010), it possesses potential that needs to be unlocked. Consequently, promoting sustainable tourism initiatives should become one of the priorities within both regional policy and the operations of individual tourist facilities. Unfortunately, many tourist facilities deliberately refrain from communicating their commitment to sustainable development, fearing negative consumer reactions (Carlos, Lewis, 2018; Ettinger et al., 2021; Font, McCabe, 2017; Ginder et al., 2021; Tiago et al., 2021). To encourage tourist facilities to intensify the communication of their sustainable development activities, it is essential to establish what determines the positive acceptance of this message by consumers. This analysis is also particularly relevant in the context of the upcoming regulatory reporting obligation in the area of sustainable development (resulting from the CSRD and CS3D directives).

To address this issue, the present article investigates the determinants of positive acceptance of messages about sustainable development actions communicated by accommodation providers to consumers from the Upper Silesian-Zagłębie Metropolis (Górnośląsko-Zagłębiowska Metropolia - GZM). A literature review was initially conducted, highlighting the key determinants of tourism in the GZM and the theoretical context related to corporate communication in the area of CSR and sustainable development, with particular emphasis on aspects identified in the literature as reasons why the topic of sustainable development is not widely employed in the communication strategies of tourism enterprises. Subsequently, a conceptual model was developed, and the research methodology and study results were discussed. The work concludes with a discussion comparing the findings to previous research and presenting the conclusions.

## **2. Literature Review**

### **2.1. Determinants of Tourism in the Upper Silesian-Zagłębie Metropolis (GZM)**

Tourism constitutes one of the key sectors of the global economy (Cembruch-Nowakowski, 2019; Rabadán-Martín et al., 2019). In 2023, this sector accounted for approximately 9.1% of the world's GDP, and forecasts predict an increase in this share to 11.4% by 2034 (World Economic Forum & University of Surrey, 2024).

Tourism plays a significant role in the economy of the Silesian Voivodeship. In the first half of 2025, accommodation facilities in Silesia hosted 1.4 million tourists (Główny Urząd Statystyczny, 2025). This figure places the region sixth in Poland, behind the Mazowieckie (3.4 million), Małopolskie (3.1 million), Dolnośląskie (2.3 million), Pomorskie (1.7 million), and Zachodniopomorskie (1.7 million) voivodeships (Główny Urząd Statystyczny, 2025). The Silesian region is also distinguished by one of the highest densities of tourist facilities per unit of area (Główny Urząd Statystyczny, 2025). According to the Central Statistical Office report, there are 610 tourist establishments in the region, out of a total of 10,354 such facilities in Poland. It should be noted, however, that this report includes only establishments offering more than ten rooms, thereby excluding apartments, smaller guesthouses, and agritourism farms. To obtain a more comprehensive picture, data from the Booking.com reservation platform (accessed on August 20, 2025) were analyzed, indicating the existence of at least 2520 facilities in the Silesian Voivodeship. Nevertheless, one must bear in mind the limitations inherent in using such a platform, as not all Polish facilities are registered there, and their availability may have varied during the study period.

Tourism constitutes one of the fifteen priority domains of inter-municipal cooperation within the Metropolia GZM framework. In this context, local governments are expected to undertake joint actions in the areas of promotion, spatial development, and tourism development programs (Czakoń, Jarczewski, 2023). The attractiveness of the GZM region stems primarily from its industrial heritage, including numerous post-industrial and mining monuments as well as the Industrial Monuments Route. Nevertheless, a survey conducted by Gawroński et al. (2010) also indicated other elements attractive for the region, such as cultural and sports offerings, as well as landscape values. An interesting and promising direction for the development of the tourism sector is also the concept of converting former factories and mining facilities into hotel properties and tourist attractions (Drzewiecki, Kazimierczak, 2014).

### **2.2. Corporate Communication in the Area of CSR and Sustainable Development**

The way enterprises communicate their activities in the area of CSR and sustainable development plays a crucial role both in achieving organizational success and in building their credibility, especially in the context of using new media for communication (Adanlawo, Chaka, 2021). As an element of marketing strategy, communicating about CSR and sustainable

development activities can influence the perception of the organization by both business partners (Lin et al., 2024) and customers, particularly in controversial industries (Jansen et al., 2024). Communication regarding CSR and sustainable development conducted via new media (including websites and social media) is highly susceptible to manipulation (Jansen et al., 2024) while simultaneously competing with widespread disinformation about climate change, climate denialism (Treen et al., 2020), and suspicions of greenwashing. Adanlawo & Chaka (2025) note that strong stakeholder reactions often occur in response to communications regarding CSR and sustainable development, especially those that initiate a discussion on whether enterprises are truly meeting expectations with their actions or if they are overstating their merits in these areas.

Research indicates that tourism enterprises communicate their sustainability efforts less frequently than firms in other sectors, which may suggest a lack of commitment (Buckley, 2012; Moyle et al., 2018; Sharpley, 2009). Nevertheless, Moyle et al. (2018) proved that tourism companies show greater actual engagement in environmentally friendly practices. Despite this real commitment and the growing awareness of the concept, the communication of these actions within the tourism industry remains low (Ghanem, Elgammal, 2017; Santos et al., 2019). Studies in Portugal (Santos et al., 2019) found that only about 10% of hotels published sustainability information on their websites. Similarly, analysis of active tourism companies in Andalusia (Pérez-Villalba et al., 2017) and hotels in Spain (Pérez, Del Bosque, 2015) confirmed the rare presence or dispersion of these communications. In Poland (Rutecka, 2023), in turn, agritourism businesses communicate their activities, but the level of communication does not reflect their actual engagement. Furthermore, research in Croatia points to a low level of experience and readiness in the hotel sector for sustainability reporting (Bedenik et al., 2020).

A variety of explanations have been proposed as to why the topic of sustainable development is not widely used in the communication of tourism enterprises. Among the most frequently cited reasons are: the perceived conflict of the concept with the nature of tourism services (Font et al., 2018), low consumer awareness (Santos et al., 2019), lack of brand trust resulting from information asymmetry (Sun et al., 2021), and difficulties in designing effective communications (Tölkes, 2018).

### **2.3. The perceived conflict of the concept with the nature of tourism services**

Tourism, as an industry sector whose aim is largely to provide entertainment, can to some extent be considered controversial. Tourism services primarily meet self-interested and hedonistic leisure needs, and as a result, tourists may focus solely on satisfying individual needs, disregarding global social and environmental problems (Higgins-Desbiolles, 2018). Therefore, sustainable development in tourism is sometimes described as a paradox (Tiago et al., 2021). On the one hand, the role of tourism includes providing maximum comfort, unique experiences, and entertainment (Font, McCabe, 2017; Malone et al., 2014; Scott, 2011; Tiago et al., 2021), while on the other hand, tourism enterprises are increasingly obliged to implement sustainable measures, including limiting the freedom offered to tourists. These restrictions may

be perceived negatively by consumers and result in reluctance to take up the offer (Kachniewska, 2018; Tiago et al., 2021), yet they are necessary to reduce resource consumption and to mitigate the negative impact of tourism on the environment and local communities.

Sustainable development practices, however, may be perceived by consumers as a form of lowering service quality or as attempts to reduce hotels' costs under the guise of environmental actions (Choudhary, Gokarn, 2013; Clark et al., 2021). Amatulli et al. (2021) cite numerous pieces of evidence indicating that luxury hotels' engagement in sustainability can negatively affect their image and diminish consumers' perceptions of the attractiveness of those hotels' offerings. On the other hand, the results of their experiment (Amatulli et al., 2021) showed that a sustainability-oriented communication strategy by a luxury hotel leads consumers to a higher perception of brand integrity, which in turn results in an intention to book a room in such a luxury hotel.

### **H1. Service Quality has a significant impact on Satisfaction**

The group of tourists who want to relax in a clean, natural environment and are willing to pay more to stay at properties whose owners demonstrate environmental care is steadily growing (Clark et al., 2021; Fernández Robin et al., 2016). According to research conducted by Booking Holdings, as many as 82% of surveyed travelers believe that sustainable travel is important, and 72% of travelers say they are more likely to book at a property that adheres to sustainable practices (Booking Holdings, 2020). Other studies show that over 30% of guests are willing to pay more for a stay in environmentally friendly hotels, and that nearly 40% of tourists take sustainability into account when choosing a destination (Clark et al., 2021; Fernández Robin et al., 2016).

If a person values a specific feature of a product or service (e.g., concern for sustainability issues), they may be more satisfied if that feature is present. In Expectancy-Disconfirmation Theory (EDT), described by Oliver (Oliver, 1977, 1980), satisfaction is defined as the emotional response a person feels after using a product or service. Kotler (2003) defined customer satisfaction as "the feeling of pleasure or disappointment resulting from comparing a product's perceived performance (or outcome) with the customer's expectations" (Kotler, 2005; Zeqiraj, Nimani, 2022). It is thus the degree to which a good or service meets the consumer's expectations prior to consumption and the satisfaction resulting from obtaining what one counted on and expected from the product or service (Zeqiraj, Nimani, 2022). Satisfaction may also be influenced by the weight a person attaches to different aspects of a product or service. Consumer satisfaction is also influenced, among other things, by service quality, information quality, and trust (Geebren et al., 2021; Sharma, Sharma, 2019).

### **H2. Satisfaction has a significant impact on Intention to use**

## **2.4. Low consumer awareness**

Despite the growing number of people declaring sustainable attitudes (Font, McCabe, 2017; Santos et al., 2019), many tourists still do not understand the meaning of sustainable development or cannot recognize its manifestations in service offerings (Fernández Robin et al., 2016). A lack of environmental knowledge limits consumers' ability to appreciate responsible practices (Bordian, Gil-Saura, 2021; Tölkes, 2018). Consumers often do not understand what sustainability is and are unaware of its significance, and consequently do not seek information about sustainable development practices implemented by hotels (Fernández Robin et al., 2016). They also do not understand the value they may receive by choosing sustainable tourism products, or how to recognize them (Tölkes, 2018). Consumers who lack sufficient environmental knowledge are unable to appreciate responsible practices in tourism establishments (Bordian, Gil-Saura, 2021). Environmental awareness has been used as an additional construct in the Technology Acceptance Model (Davis, 1989) in a study of consumers' intention to use ride-sharing services (Wang et al., 2020) and is defined as knowledge of and concern about the consequences and impact of human behavior on the climate and environment (Schuitema et al., 2013) and is an important factor determining a change in current behavior towards more environmentally friendly actions (Schuitema et al., 2013; Wang et al., 2020). In the study by Wang et al. (2020), it was found that environmental awareness has a positive and direct effect on the intention to use pro-environmental services, in this case, ride sharing.

**H3. Ecological Awareness has a significant impact on Intention to use**

**H4. Ecological Awareness has a significant impact on Service Quality**

## **2.5. Lack of brand trust resulting from information asymmetry**

Trust means the degree to which stakeholders are willing to accept vulnerability to the actions of others (Curşeu, Schruijer, 2010), and it can be directed both toward a group and toward a specific decision, in this case, a company's adopted sustainability strategy and the integrity associated with its communication strategy in this area. Trust is also perceived as a psychological state in which consumers and entrepreneurs have mutual trust and positive expectations toward each other (Asante Boadi et al., 2019). Perceived risk, in turn, refers to the financial, social, physical, time, or psychological risk associated with using a product or service (Featherman, Pavlou, 2003). In the case of tourism services, it is linked to the concern discussed above that implementing sustainability actions may undermine service quality or conflict with the nature of tourism, as well as to information asymmetry and the veracity of messages. There are situations in which business owners undertake low-cost and low-impact actions, such as labeling a property with "green" tags, including information on water saving, towel washing, and the like. These actions are appropriate, provided they are not used solely to gain a competitive advantage (Moyle et al., 2018) and are not equated with the company's holistic

approach to sustainability. Since the tourism offering is intangible and it is not possible to test the product or return it, trust in the brand and in the information it provides is crucial (Bilgihan, 2016; Cheunkamon et al., 2022). Nowadays, with the widespread use of the Internet as a communication channel, it is possible to verify the authenticity of a property's messages by reviewing the opinions of other guests of a given property who review their experiences related to their stay (Miranda, Briley, 2021; Prendergast et al., 2015), although there is also a risk here, both related to the possibility of generating false reviews and to their bias linked to the reviewer's personal perception. As Cheunkamon (2022) points out, a company can earn consumer trust through honesty and keeping its promises. Trust can be used to predict tourists' behaviors, including their intention to choose an offer and their engagement (Han et al., 2021).

##### **H5. Trust has a significant impact on Ecological Awareness**

##### **H6. Trust has a significant impact on Service Quality**

### **2.6. Difficulties in designing effective communications**

Communication plays a significant role in business management, including sustainability management, enabling an organization to engage in dialogue with its stakeholders. Based on this dialogue, a new, more sustainable product may emerge, which in turn can reduce the company's negative impact on the environment and society. For a company to build its market position and increase competitiveness through sustainable actions, communication should include informing stakeholders about the values of new products and the company's values (Kowalska, 2020). Without effective communication, transformation toward sustainability in both the company and society becomes impossible (Hartmann, Apaolaza Ibáñez, 2006; Kowalska, 2020; Martin, Schouten, 2014). Communication is described as a strategic management function that helps build relationships with key audiences, thereby influencing an organization's mission, goals, and tasks (Dozier et al., 2013; Etter, 2014). If a company does not share information about its values with stakeholders, they will not be aware of their existence or of their incorporation into products. The manner of conducting communication, in turn, signals how the company wants to present itself (Font et al., 2017) and how it wishes to be perceived by its stakeholders.

As observed by Kronrod et al. (2012), a significant number of sustainability messages use aggressive, imperative slogans that leave recipients with no possibility of refusal. However, as Zhang et al. (2011) demonstrate, consumers are more willing to engage when it results from an autonomous choice, and they most readily participate in actions that are linked to their own goals (Goldstein et al., 2008). Cornelissen et al. (2006), in turn, indicate that audiences may respond better to messages when they are shown behaviors considered responsible that they could emulate. The form of the message can thus have a significant impact on the intention to use the offer, and inappropriate communication can negatively influence it, even if other components of the offer suit the customer. Moreover, as indicated by studies by Cerri (2018)

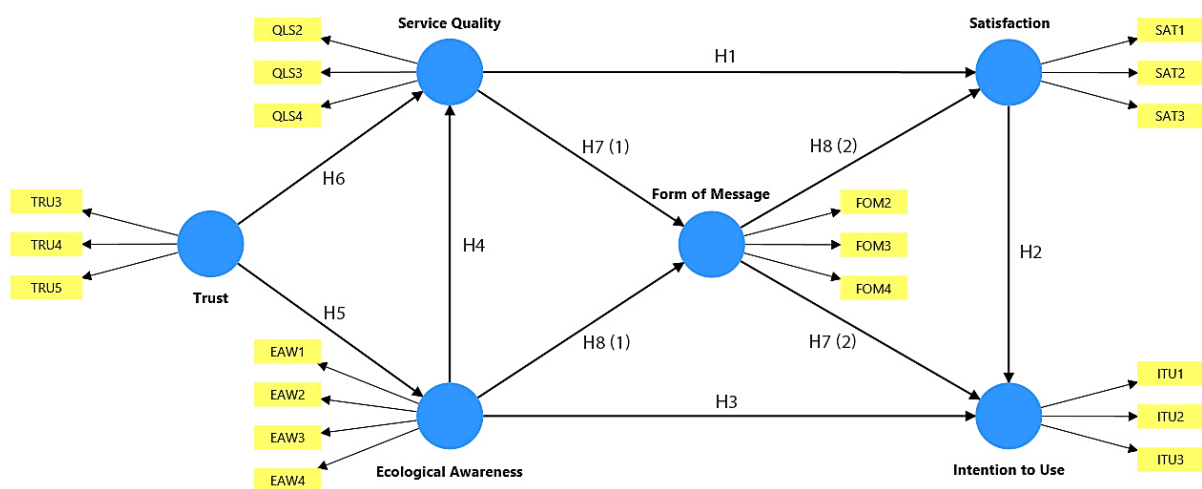
and Taufique (2017), communicating about sustainable actions can strengthen consumers' pro-environmental attitudes and their environmental awareness (Gaspar Ferreira, Fernandes, 2022).

**H7. Service Quality mediated by the Form of Message has a significant impact on Intention to use**

**H8. Ecological Awareness mediated by the Form of Message has a significant impact on Satisfaction**

### 3. Research Method

In structural equation modelling using the partial least squares method (PLS-SEM), the appropriate determination of the sample size is of fundamental importance for maintaining the credibility and robustness of the obtained results. In research projects employing PLS-SEM, the required number of observations is dependent on diverse factors. These include, among others, the level of model complexity, the sum of latent variables and their associated indicators, as well as the predicted effect size and the expected statistical power (Hair et al., 2013). The existing literature presents various standpoints regarding sample requirements: some experts postulate that a minimum respondent-to-indicator ratio of 5:1 or 10:1 is necessary, while other researchers recommend that the sample should include at least 100 to 200 observations (Kock, 2018; Strzelecki, 2023). Within the scope of the present analysis, a 10:1 sample-to-indicator ratio was adopted. Given that the research model comprises 25 indicators, the minimum required sample size was determined to be 250 observations. The conceptual model was based on six constructs, which were presented in detail in the earlier part of the study.



**Figure 1.** A conceptual acceptance model for sustainability communication.

The survey was conducted between July and August 2025 (with a data collection period of 30 days) among users registered in the National Research Panel. A 7-point Likert scale was used. The survey was conducted by the Fieldstat research agency and funded by the Metropolis GZM (Górnośląsko-Zagłębiowska Metropolia) under the "Metropolitan Science Support Fund" program for the period 2022-2024. The survey was closed after 800 responses from residents of the GZM Metropolis had been collected.

**Table 1.**

*Expected and obtained number of interviews by age in GZM*

	<b>Residents 18+</b>	<b>% in total</b>	<b>Target interviews</b>	<b>Interviews completed</b>
Female	935287	52,9%	423	423
Male	832107	47,1%	377	377
<b>Total</b>	<b>1767394</b>	<b>100,0%</b>	<b>800</b>	<b>800</b>

Source: developed by the author based on data from GUS, contained in the Local Data Bank.

**Table 2.**

*Expected and obtained number of interviews by gender in GZM*

	<b>Residents 18+</b>	<b>% in total</b>	<b>Target interviews</b>	<b>Interviews completed</b>
18-29	227372	12,9%	103	103
30-39	295648	16,7%	134	134
40-49	359278	20,3%	162	162
50-59	271349	15,4%	123	123
60-69	289635	16,4%	131	131
70 <	324112	18,3%	147	147
<b>Total</b>	<b>1767394</b>	<b>100,0%</b>	<b>800</b>	<b>800</b>

Source: developed by the author based on data from GUS, contained in the Local Data Bank.

The majority of respondents were women (52.9%,  $n = 423$ ). Men made up 47.1% ( $n = 377$ ) of respondents. The largest group of GZM residents consists of people aged 40-49 (20.3%), while the smallest group is people aged 18-29 (12.9%). The sample size was determined based on data from the Statistics Poland (GUS), contained in the Local Data Bank, which were current as of the last day of the previous year, i.e., 31.12.2024.

## 4. Results

The PLS-SEM model was constructed and analyzed using SmartPLS4 (version 4.1.0.9), with default settings applied throughout the process (Sarstedt et al., 2017). The initial step in assessing the reflective measurement model involved analyzing indicator loadings to determine indicator reliability. Reliability is calculated as the square of the loading, which represents the bivariate correlation between the indicator and its construct (Hair et al., 2022). A loading of 0.70 or higher is generally accepted as confirming satisfactory reliability, as it indicates the construct explains over half of the indicator's variance (Sarstedt et al., 2017).

Initially, the indicators FOM5, FOM6, and TRU2 were removed because their loadings were 0.135, 0.330, and 0.161, respectively. As these indicators did not meet the minimum threshold of 0.40, they contributed insufficiently to the construct's explained variance. Additionally, the indicator FOM1 (loading 0.413) was also eliminated due to its low Cronbach's alpha value. For the construct Trust, the AVE value remained below 0.50, which necessitated the removal of an additional indicator with the lowest loading: TRU1 (loading 0.505). To enhance the model's Composite Reliability, the indicator QLS1 (loading 0.457) was also removed. By sequentially discarding items, the measurement model's internal consistency and convergent validity were strengthened.

After confirming the reliability of individual indicators, the internal consistency of the constructs was assessed using three metrics: Composite Reliability ( $\rho_c$ ), Cronbach's Alpha ( $\alpha$ ), and the reliability coefficient ( $\rho_A$ ). In PLS-SEM analysis, Composite Reliability is a key and widely accepted metric; the higher its value, the greater the construct's reliability. It is accepted that in exploratory research,  $\rho_c$  values between 0.60 and 0.70 are permissible, while those from 0.70 to 0.95 are considered indicative of a high-quality model. Indicator Reliability values were derived from the squared indicator loadings. The loadings for the indicators, Indicator Reliability, as well as Cronbach's alpha,  $\rho_A$  (rho\_A), Composite reliability  $\rho_c$ , and AVE for the variables are presented in Table 3.

**Table 3.**  
*Assessment of measurement models using PLS-SEM*

Variable	Indicators	Convergent validity			Internal consistency reliability		
		Loading	Indicator reliability	Cronbach's alpha	$\rho_A$ (rho_A)	Composite reliability $\rho_c$	AVE
		>.70	>.50	.70-.95	>.70	>.70	>.50
Environmental awareness	EAW1	.801	.641	.852	.852	0.900	.693
	EAW2	.856	.732				
	EAW3	.845	.714				
	EAW4	.826	.683				
Form of Message	FOM2	.770	.592	.787	.804	0.875	.702
	FOM3	.870	.756				
	FOM4	.870	.756				
Intention to use	ITU1	.930	.865	.917	.917	0.948	.858
	ITU2	.925	.856				
	ITU3	.924	.853				
Satisfaction	SAT1	.795	.632	.883	.884	0.928	.811
	SAT2	.885	.783				
	SAT3	.827	.684				
Service quality	QLS2	.903	.815	.785	.796	0.874	.699
	QLS3	.900	.810				
	QLS4	.899	.808				
Trust	TRU3	.609	.371	.577	.715	0.749	.506
	TRU4	.619	.384				
	TRU5	.874	.765				

To properly assess discriminant validity in the PLS-SEM framework, the Heterotrait–Monotrait Ratio of Correlations (HTMT) is the preferred criterion (Henseler et al., 2015). The recommended threshold to confirm discriminant validity is 0.90 (particularly for conceptually similar constructs), though a stricter 0.85 is advised when constructs are distinctly different. The results, displayed in Table 4, show that all construct pairings, with the exception of the Service Quality - Satisfaction pair, exhibit HTMT values below 0.90. This collectively indicates that the model achieves an acceptable level of discriminant validity.

**Table 4.**  
*Heterotrait–monotrait ratio (HTMT) values*

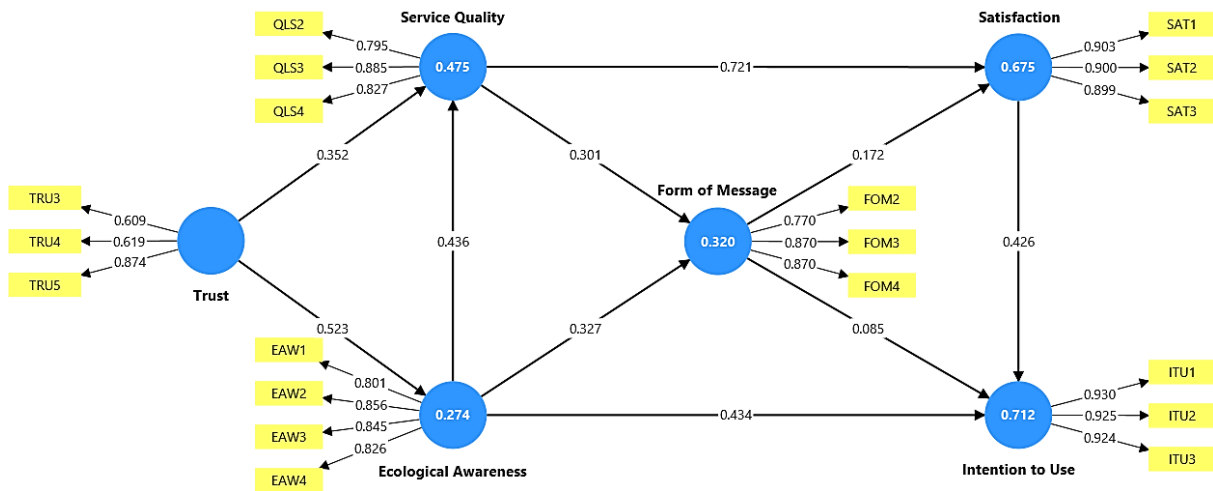
	EAW	FOM	ITU	SAT	QLS	TRU
<b>Environmental awareness (EAW)</b>						
<b>Form of message (FOM)</b>	0,620					
<b>Intention to use (ITU)</b>	0,876	0,626				
<b>Satisfaction (SAT)</b>	0,802	0,637	0,859			
<b>Service Quality (QLS)</b>	0,756	0,634	0,855	0,965		
<b>Trust (TRU)</b>	0,654	0,783	0,685	0,695	0,724	

**Table 5.**  
*Results of the significance tests and the path coefficient of the structural model*

Hypothesis	Path	Coefficient	Effect size (f <sup>2</sup> )	Significant (p < 0.05)?
<b>H1</b>	Service Quality (QLS) → Satisfaction (SAT)	.721	1.194	Yes (0.00)
<b>H2</b>	Satisfaction (SAT) → Intention to use (ITU)	.426	.297	Yes (0.00)
<b>H3</b>	Ecological Awareness (EAW) → Intention to use (ITU)	.434	.319	Yes (0.00)
<b>H4</b>	Ecological Awareness (EAW) → Service Quality (QLS)	.436	.236	Yes (0.00)
<b>H5</b>	Trust (TRU) → Ecological Awareness (EAW)	.523	.377	Yes (0.00)
<b>H6</b>	Trust (TRU) → Service quality (QLS)	.352	.172	Yes (0.00)
<b>H7(1)</b>	Service quality (QLS) → Form of Message (FOM)	.301	.082	Yes (0.00)
<b>H7(2)</b>	Form of Message (FOM) → Intention to use (ITU)	.085	.017	Yes (0.00)
<b>H8(1)</b>	Ecological Awareness (EAW) → Form of Message (FOM)	.327	.097	Yes (0.00)
<b>H8(2)</b>	Form of Message (FOM) → Satisfaction (SAT)	.172	.068	Yes (0.00)

As indicated in Table 5, the findings for the path coefficients demonstrate that all hypotheses tested reached statistical significance at the 5% error margin. However, the f<sup>2</sup> values for H7 (1&2) and H8 (1&2) do not exceed the 0.15 threshold, suggesting a relatively low effect size. Among the tested relationships, the paths corresponding to H1 and H5 exhibit the highest significance, with path coefficient values exceeding 0.5.

Figure 2 presents the results of the PLS-SEM analysis, illustrating the standardized regression coefficients that define the relationships between the variables, while R<sup>2</sup> values are displayed within the circles.



**Figure 2.** A conceptual acceptance model for sustainability communication – final results.

Mediation of the Form of Message (FOM) construct was intentionally tested within hypotheses H7 and H8, necessitating the use of the bootstrapping method to assess the statistical significance of the indirect effects. Bootstrapping is the dominant and recommended approach for testing mediation in PLS-SEM analysis. This method allows for the estimation of the statistical significance of the indirect effect without requiring the fulfillment of strict assumptions regarding data normality (Henseler et al., 2015).

The Indirect Effect for Hypothesis H7 is the product of the path coefficients of H7(1) and H7(2), while the Indirect Effect for Hypothesis H8 is the product of the path coefficients of H8(1) and H8(2):

$$H7 = QLS \rightarrow FOM * FOM \rightarrow ITU = 0.301 * 0.085 = 0.0256$$

$$H8 = EAW \rightarrow FOM * FOM \rightarrow SAT = 0.327 * 0.172 = 0.0562$$

For Hypothesis H7, the indirect effect is positive (0.0256), indicating that Service Quality (QLS) positively influences Intention to Use (ITU), and this influence is partially transmitted through the Form of Message (FOM). Since both the indirect effect and the direct effects are statistically significant, FOM acts as a partial mediator. However, the magnitude of the indirect effect is very small, suggesting that FOM's role as a mediator in this relationship is marginal. An increase in Service Quality (QLS) leads to a better Form of Message (FOM), which, in turn, only slightly increases Intention to Use (ITU).

For Hypothesis H8, the indirect effect is positive (0.0562), meaning that Ecological Awareness (EAW) positively influences Satisfaction (SAT), and this relationship is partially transmitted through the Form of Message (FOM). As both the indirect effect and the direct effect are statistically significant, it can be concluded that the Form of Message (FOM) construct acts as a positive mediator in the relationship between EAW and SAT. Higher Ecological Awareness leads to a better-perceived Form of Message, which results in higher consumer Satisfaction. Although the magnitude of this effect is also small, the Form of Message (FOM) exhibits a stronger mediating role in the context of Ecological Awareness than in that of Service Quality (QLS).

## 5. Discussion

This article proposes and verifies a model determining the factors that influence the acceptance of sustainable development communication disseminated by tourism accommodation providers among GZM residents. The literature has identified many reasons why communicating activities related to sustainable development and CSR is not a common phenomenon in the hospitality industry. The most frequently indicated factors include low consumer awareness (Santos et al., 2019), difficulty in formulating messages (Tölkes, 2018), the conflict of the sustainable development concept with the nature of tourism services (Font et al., 2018), and a low level of trust (Sun et al., 2021). Therefore, these most frequently cited reasons were incorporated into the model in this paper.

As a result of the model analysis, all formulated hypotheses were confirmed, although the best results were achieved for H1 (path coefficient 0.721) and H5 (0.523). The high result obtained for H1 is not surprising. The fact that Service Quality, both within and outside the tourism industry, positively influences satisfaction levels has been repeatedly proven (Geebren et al., 2021; Sharma, Sharma, 2019). In this study, however, respondents were asked, among other things, whether they had ever felt limitations when choosing an accommodation that implemented and communicated its sustainability initiatives, whether lodging facilities that communicate their sustainability initiatives meet their needs, and whether, in their opinion, lodging facilities that communicate their sustainability initiatives offer more services. In the context of Satisfaction, respondents were asked, among others, whether they are satisfied with the services of lodging facilities that communicate their sustainability initiatives, whether lodging facilities that communicate their commitment to sustainability meet their expectations, and whether they feel that choosing lodging facilities that implement sustainability initiatives is a good decision, and they would recommend them to others. This study confirmed that Service Quality positively influences Satisfaction in the context of communicating about sustainable development in the offer. It can be inferred that consumers do not perceive a deterioration in the quality of services provided by facilities that implement sustainable development and CSR principles, which is often suggested by researchers as a potential concern (Choudhary, Gokarn, 2013; Clark et al., 2021). Instead of negatively impacting their satisfaction, the effect is quite the opposite.

It was also confirmed that Trust has a significant, positive influence on Ecological Awareness. In the context of Trust, respondents were asked whether, when choosing tourist facilities, they rely on opinions about them, whether they pay attention to whether the facility responds to negative reviews, and whether they trust that facilities communicating about sustainable initiatives have sincere pro-environmental intentions. In the context of ecological awareness, they were asked whether they consider the consequences of their actions, whether they worry about the waste of the planet's resources, whether they would describe themselves

as environmentally responsible individuals, and whether they are willing to endure inconveniences to take more environmentally friendly actions. Trust also has a positive influence on perceptions of service quality. Ecological Awareness likewise has a positive impact on perceptions of Service Quality, as consumers understand the reasons behind the actions taken by the facilities. Furthermore, it positively affects Intention to Use the services of a facility that communicates about its sustainable activities.

Based on the analysis results, it can be stated that trust in a tourist facility and its environmental intentions may lead to an increase in ecological awareness and a willingness to engage in sustainable initiatives proposed by the facility. This confirms the importance of transparency and sincerity in facility communication (Cheunkamon et al., 2022). Consistent with prior studies in fields ranging from fashion (Chen et al., 2022; Liu, He, 2025) to HoReCa (Kapoor et al., 2021; Xu, Jeong, 2019), this research demonstrates that communication acts as a positive mediator for service acceptance. Although the observed mediation effect is small, it reaffirms that sustainability-related messaging remains a valid tool for shaping consumer intentions. However, the form of the message is of paramount importance. The impact of communication varies significantly depending on whether it emphasizes gains or losses (Chen et al., 2022), highlights specific benefits (Xu, Jeong, 2019), or is perceived as generally attractive in its presentation (Kapoor et al., 2021). However, this study did not analyze whether different messages produce different mediating effects.

## 6. Conclusions

This study, conducted on a representative sample of GZM residents, yields interesting results that indicate no justification for the fears of tourism facilities regarding communicating their sustainable actions. It should be noted here that the Silesian Voivodeship has been the industrial center of Poland for many years, owing its development primarily to coal mines. Therefore, residents of this voivodeship, who are strongly linked to heavy industry and mining, might be potentially negatively disposed toward the concept of sustainable development. Due to the introduction of regulations aimed at achieving sustainable development goals, mines and steel mills are being closed. This means residents of this region must undergo professional reorientation. Mines in GZM are not only workplaces but also a major factor shaping the regional culture, which is largely drawn from mining traditions. It is important to highlight that while the regional context of mining and industrial identity was discussed to provide a broader perspective for interpreting the findings, these aspects were not included as empirical variables in the current model.

Nevertheless, the positive attitude of the region's residents toward such initiatives undertaken by tourism facilities indicates that they are increasingly understanding the need for these actions. However, it is important to them that the actions undertaken have sincere intentions, and they are even willing to endure inconveniences associated with the facilities' sustainable activities. The greater their ecological awareness, the greater their satisfaction, and they do not believe that sustainable actions negatively impact service quality.

This study confirms that communication acts as a small but positive mediator between ecological awareness, satisfaction, service quality, and the intention to use the service. While the small effect sizes of the message form suggest that its influence is secondary to more dominant factors—specifically service quality and trust—it remains a relevant consideration. To achieve the most substantial gains in user acceptance, tourism facilities should prioritize enhancing service quality while communicating their actions in a non-aggressive way that raises awareness and offers opportunities for value co-creation. These insights are valuable for both regional authorities, highlighting the need for further resident education, and tourism facility owners, who should not hesitate to showcase their commitment.

### **6.1. Limitations and Future Research**

A deliberate limitation of this study was the examination of residents exclusively from the Silesian Voivodeship. Analyzing the profiles of individuals with varying attitudes could also provide interesting results. Furthermore, the current research did not include empirical indicators for individual ties to the mining industry, which represents a limitation; future studies could address this by using these factors as potential moderators or predictors in the model. The application of the PLS-SEM method allows for trend prediction but does not provide specific answers that could be delivered by, for instance, cluster analysis of respondents or regression analysis (or moderated regression analysis). Future research plans include both analyzing a representative sample from across the country and consumer segmentation to obtain more concrete guidance on factors influencing the acceptance of communication about sustainable development activities conducted by tourism accommodation providers.

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