



# KONFERENCIAKÖTET

## Conference Proceedings

**Nemzetközi tudományos konferencia  
a Magyar Tudomány Ünnepe alkalmából**  
International Scientific Conference  
on the Occasion of the Hungarian Science Festival

**Sopron, 2025. november 6.**  
6 November 2025, Sopron

**FEJLŐDÉSI PÁLYÁK ÉS ÚJ TÖRÉSVONALAK A  
FENNTARTHATÓSÁGI ÁTMENET IDŐSZAKÁBAN**

DEVELOPMENT TRAJECTORIES AND NEW DIVIDES IN TIMES OF SUSTAINABILITY TRANSITIONS

Szerkesztők / Editors:

RESPERGER Richárd, SZÉLES Zsuzsanna, TÓTH Balázs István

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## **Sustainability by Design: User Experience Strategies in Green Tourism Marketing**

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**Abstract:** As sustainability becomes a key factor in tourism destination competitiveness, digital design and marketing are vital in shaping perceptions of responsible and clean travel. This paper argues that user experience and visual communication design critically impact tourists' views on sustainability and their choice of environmentally responsible travel options. To determine which design strategies most effectively convey sustainability messages in digital tourism, this study employs a qualitative and quantitative approach. It contains a content analysis of sustainable tourism platforms and campaigns across Central Europe. Moreover, a survey is created and distributed through Google Forms to collect quantifiable data from a larger sample of travelers. The survey focuses on perceptions of sustainability messaging, trust cues, and the influence of digital design and graphic design on eco-friendly decision-making. The research aims to define a Sustainable Experience Design framework that aligns user experience with environmental and ethical concerns in tourism. By integrating digital design analysis with behavioral data, the study offers methodological and practical insights into advancing sustainability communication in Central European tourism.

**Keywords:** sustainability, experience design framework, sustainable tourism, consumer behavior

**JEL Codes:** L83, Q57, M31

### **1. Introduction**

Sustainability is no longer just a buzzword in tourism, it's becoming a key factor to use to compare destinations and see which one is the best to choose to stay in and here comes the competition in tourism. Every day, travelers are making choices based on mouth to ear recommendations, a great part of experienced travelers do make research about environmental and social responsibility, which means that destinations particularly in Central Europe, need to communicate their sustainable practices more clearly (Gössling et al., 2020). At the same time, digital platforms, websites, booking apps and social media have become central to the travel experience influencing decisions about eco-friendly options (Buhalis & Law, 2008).

In the meanwhile, many travellers rely on online platforms and digital devices to plan trips and book accommodation, as reflected in the growing number of nights booked via online platforms in the EU (Eurostat, 2025). Between 2024 and 2025, Central European countries have experienced high visitor numbers, as confirmed by surveys indicating that digital tools and online solutions play an important role in travel planning and behaviour (Eurostat, 2024; Interreg Centrak Europe HUMANITA, 2024). While this digital shift is opening doors for new opportunities to promote sustainability, it also puts in question whether travelers are qualified and ready to understand the environmental and social impact of their choices.

However, most digital platforms are focusing on commercial goals rather than educational support for tourists, and this is very unethical to use it just for marketing purposes under the name of sustainability. They often miss the chance to guide users in understanding how their travel decisions affect local communities and ecosystems (Huang & Benyoucef, 2017). Previous research has looked at general usability user experience in tourism, but there's still a gap when it comes to how design can actively support sustainable travel practices, especially for international students and first-time visitors navigating unfamiliar destinations (Tussyadiah, 2014).

Therefore, this study addresses the gap of missing interactive experiences that are encouraging travelers to choose sustainable destinations through digital platforms. Using a mixed-methods approach, we first conduct a survey among travelers including international students, to understand how these design elements influence trust, perception of sustainability and travel decisions. Then, analyze the design of tourism platforms and applications across Central Europe, that is going to include analyses of the layout, visuals, animations and text information presented to communicate sustainability messages.

By combining behavioral data and platform analysis, I aim to propose best practices and future plans for a better sustainable experience design framework. The goal is to provide actionable guidance for creating digital platforms that not only look good but also help travelers make conscious and responsible sustainable choices, particularly in the digitally engaged context of Central Europe.

## **2. Literature Review**

From my perspective, sustainability in tourism isn't just about protecting natural resources, it's also about how well destinations explain their environmental values to travelers. For example, Bramwell and Lane (2011) point out that truly sustainable destination management depends on collaboration and clear communication, which previous studies have proven that it makes a lot of sense when you're trying to balance growth with real ecological limits. And with travelers becoming more environmentally aware, as Gössling (2017) argues, digital platforms now play a huge role in shaping how people interpret sustainability claims.

Yet, some travelers agree on caring about the environment, while they still look for things that deserve trust and show the goal of sustainability with more transparency by reflecting credibility from the green certification and convincing visuals. Therefore, digital storytelling is one of the most successful methods of communicating sustainability in a meaningful way, especially that it allows design to not just present information but also create an emotional bond that helps tourists and people who are also planning to travel understand why sustainable choices matter (Buckley, 2012; Miller et al., 2010). In addition, if sustainability messages are told as part of engaging stories, it is surely going to make audiences relate to the issues and remember them when they get in similar situations. Therefore, in a field where understanding impact is essential, digital storytelling has an important role in making tourists engage to make the environment a priority (Font & McCabe, 2017).

Overall, these studies helped me confirm that sustainability in tourism is not just about policies or real-life practices but also about shaping perceptions through intentional communication and design. As destinations compete to show their care for the environment, how they present themselves online has become a significant factor in making or changing choices of some travelers for eco-friendly options not just any other destination.

Researchers investigating Central European tourism lately pointed to digital user experience and visual communication as pivotal for making sustainability more visible and actionable to travelers. Studies of destination branding in Poland and neighboring markets show that visual elements such as logos, images and color variations do much of the heavy lifting in the signaling nature and heritage-based sustainability claims, helping visitors quickly read a place's environ-

mental identity (Adamus-Matuszyńska et al., 2021). Empirical work on website design confirms that polished visual layouts paired with usable interfaces not only increase trust and pleasure but also mediate behavioral intentions which is important when the goal of some campaigns is nudging tourists toward eco-friendly options (Jongmans et al., 2022).

Text Analysis and graphic content that were used in European city communications show that the way sustainability messages are crafted across posts varies widely depending on the cultural of each destination. But when cities use sustainability language and visual storytelling in a consistent and coherent way across their channels, public engagement tend to rise (Marchi et al., 2023). In Central Europe specifically, smart-tourism and digitalization initiatives highlight the need to align technical capacity, UX skills and local policy so that sustainability messages don't get lost in poor navigation that's why they are taking care of the visuals to make them as consistent as possible (Gajdošík, 2018). In short, literature argues for a blended approach which is reinforcing digital skills to make the design talk directly to users, craft original visual narratives to get user journeys that make sustainable choices more obvious and the most attractive option for visitors.

Research on digital sustainability publicity consistently shows that travelers are not only seeing environmental information online, but they are subtly influenced by it. Across both sustainability communication studies and digital UX research, scholars find that clear visuals, trustworthy signs and intuitive interfaces significantly influence the choice of travelers to different options. Visitors tend to rely on quick visual signals, colors, icons, photos of natural spaces because it's how they judge how credible the sustainability of the destination feels. When the design elements are united with an easy flow to navigate and a clear explanation, users will automatically trust it and will surely be more willing to adjust their plans to go for greener alternative destinations. However, from what I previously mentioned, we can see that poor design or inconsistent messaging lowers the engagement, while on the other hand, attractive visuals, storytelling and interactive gamified design create a feeling of authenticity that motivates travelers to take a new direction. In general, the findings suggest that sustainability becomes convincing when it feels real and it contains visually coherent and emotionally vibrant elements, and that proves that design is not just a communication tool but a behavioral stimulator to users.

Even though research on sustainable tourism and digital communication has grown, still from a conceptual level some things are rarely explored. Within the Central European region, user experience design choices in tourism platforms are currently influencing real travelers' perceptions. That's one of the reasons why I chose to do qualitative research on the UX/UI design field with quantitative data, which leads us to know more about how travelers interpret and respond to sustainability as part of their actual decisions. By analyzing design strategies in measurable traveler responses, the study contributes both practical tools for destinations and theoretical precision for future research.

### ***2.1. Growth of European Tourism and the adoption of Digital Products by Travelers***

Although tourism makes a vital contribution to the gross domestic product (GDP) of many European nations, its variability and intensity can lead to significant economic and social impacts. The increase in travel destination has reached a renewed conversation about "overtourism" especially after the pandemic. Let me define the concept of overtourism first, which is related to the number of visitors, especially during a high touristic season, the touristic period is usually during the months of summer (July and August). So, certain cities and islands in Greece and Italy started setting policies in some places to reduce the negative effects and the harm tourism has brought to local places.

Due to the growing trend of global traveling, Europe is attracting massive waves of visitors as social media and movies inspire people to travel and share iconic destinations. And these numbers are exceeding levels that were found before the pandemic. This change is reshaping

the way people experience and move around the continents and this creates both chances and obstacles for various locations (European Travel Commission, 2024).

The more traveling there is, the more important mobile applications are. For businesses, to create successful applications, users must find a clear User experience design that makes them not only use it more than once but also recommend it to other people. In this case, we can see that Digital products are our new guide while traveling (Dias & Afonso, 2021).

The theory of planned behavior (TPB) was derived from the theory of reasoned action (TRA), which proposed that people are rational and make decisions through systematic considerations with all available information. Most behaviors of individuals are affected by attitudes. The TPB framework has been applied in various contexts since its introduction, such as in relation to consumer choices of products like e-commerce, platforms that encourage on waste reduction behavior and are for green product consumption. This framework has become one of the most popular foundations that is used to explain travel-related behaviors, such as outbound-travel decision making, transportation choices, shopping options, intention to choose green hotels as well as the adoption of tourism and travel related technologies (Wu et al., 2022).

However, the digitalization movement did not only affect tourism but also real traveling objects such as a paper Map, a book or a compass which are no longer necessary to buy because applications are playing the role of every tool that we would need to use. Most digital research is based on how we can take a tool that we use every day and turn it into an application, to make everything in one place. This concept is getting applied to traveling too. Now that all applications are online, are they sending a clear sustainability message on these digital platforms?

## **2.2. Impact of social media on the increase of Tourism in Europe**

Pre-trip travel planning, which is an important stage of consumer information search, is considered a fundamental component of the trip experience during which a traveler needs a high amount of information to develop a travel plan. As such, information available to individual travelers has significant impact on various aspects of the traveler's decision making, especially when choosing a destination, travel planning helps tourists make decisions and build expectations for the upcoming trip clearer. Therefore, travel planning is the first step to start knowing the destinations that a traveler would like to discover and that is lately influenced by social media reels and posts which is one of the things that has changed travel and tourism (Xiang et al., 2015).

Social media has been shown to shape tourists' attitudes in measurable ways across Central European cohorts, and that is proved by some studies that were done in Czech with a portion of Millennials demographics (Generation Y). The report says that social channels act as striking information sources and that increase behavioral intention and indirectly change actual travel behavior, highlighting how much social media's role in the planning and decision-making process is influential (Javed et al., 2020).

More recent qualitative work focused on Generation Z, in the region of central Europe, finds that Gen Z are heavy consumers of influencer and short-video content, their travel attitudes are shaped as much by perceived authenticity, content quality and sustainable messaging as by mere exposure with influencers' transparency, visual storytelling and practical details driving trust and choice. Together these studies suggest a generational contrast which agrees that Millennials respond strongly to social media as an informational driver of intent, whereas Gen Z's attitudes pivot on influencer characteristics and content formats which signal authenticity and sustainability, that's why most of the websites and applications are visited by people who are convinced first by the add, second with the content and then by the structure of the website or mobile application and its elements which will be mentioned and analyzed in the next section.

### 3. Materials and Methods

This study uses a mixed methods approach to capture how digital sustainability messaging influences travelers in Central Europe and how clear sustainable messages are. First, on the quantitative side, I built a questionnaire on Google Forms to young travelers who have visited or plan to visit Central Europe. The survey shows the awareness of participants about sustainability while traveling, their trust in digital sustainability messaging and how clear the design of the interfaces is to help them learn sustainable behaviors. Responses are then analyzed to identify the level of awareness and correlations between design elements and behavioral actions.

Complementing this, on the qualitative side, I analyzed some websites and applications that were made for travelers and encouraged sustainable actions. I chose websites and applications that are mostly used in the central European region and focused my analyses on visual user interface elements like images, colors, icons, illustrations, layout and text. These analyses are done to understand the methods used to bring people to visit touristic destinations, how sustainability is represented and what design strategies are used to encourage people to do specific acts when they go to different regions. By going through the digital materials, the qualitative method of research will provide feedback about the design patterns shaping traveler experience.

Together, these two methods offer an explanation to the relationship between digital design and sustainable tourism behavior.

#### *3.1. Quantitative Data Collection and Analysis*

The survey was designed to gather quantifiable feedback into how travelers engage with digital sustainability messaging when visiting Central Europe. In the analysis, there are three sections, the first one is basic demographics and travel habits, the second is how sustainability messages are perceived and third, the impact of design elements on touristic platforms on real users. This structure shows that the data collected is connected to the travelers' profiles and focuses on the key variables relevant to the study which is their awareness about sustainability.

The questions were all inserted primarily in a Google Forms and distributed through social media to be shared across Hungarian and international students from the university of Sopron whose age range is between 17 and 34 years old. This approach helped me reach a sample of people who have recent travel experience in Central Europe, so the data reflects a narrow user group of 60 people that has answered the survey.

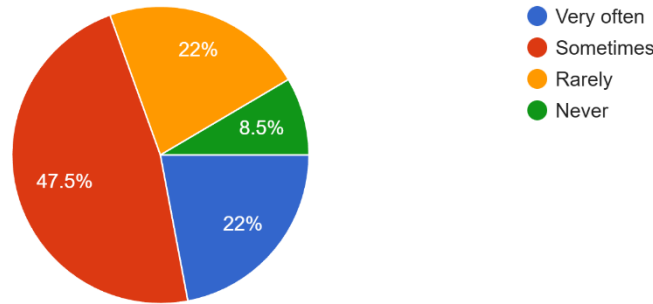
The first variable is the perception of sustainability messages capture how clear, engaging respondents find sustainability information online.

Some certification labels make sustainability messages more transparent and easier to understand with professional visuals which lead travelers to feel that this message is trusted. Added to that, the user experience and especially the user interface's impact on the choice of some travelers to go for eco-friendly options.

Together, these variables help me find out how digital design shapes sustainable travel behavior.

4. How often do you notice clear sustainability messages (e.g., eco labels, green badges, ethical travel tips) when visiting travel websites or apps?

59 responses



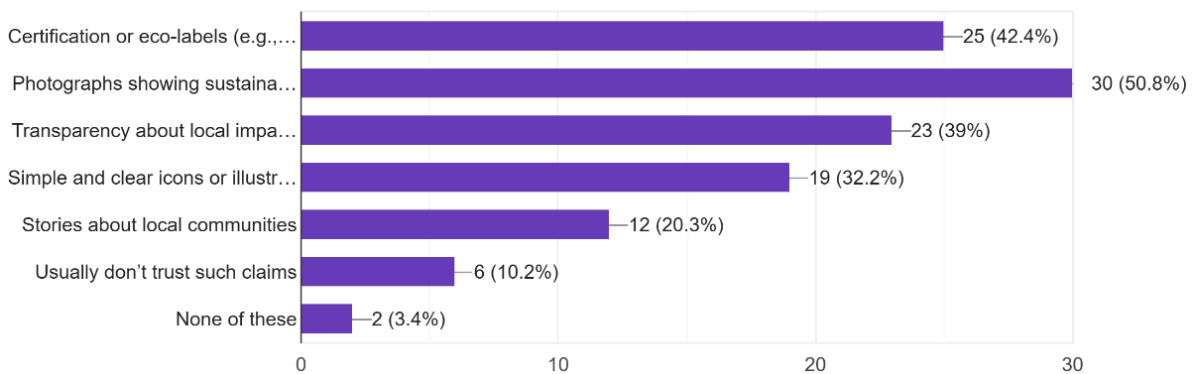
**Figure 1: Visibility of Sustainability Messaging in Online Travel Platforms**

Source: Author’s own research, 2025

Starting with *Figure 1*, The chart shows that most respondents sometimes or rarely notice clear sustainability messages on travel websites, which means that the actual digital communication is not strong enough. Even though some platforms use certification labels and professional visuals, these elements are not easily reaching users or let me describe it differently as the design did not hold the user’s attention from the beginning. Since only a small number of people see these messages on a regular basis, it is obvious that design intentions might not match the expectation of the creator of the digital product, which leads the real user experience flow to not be the most satisfying one. This proves that the more engaging sustainability signs are, the clearer the message is to make tourists feel more convinced about their decision.

5. Which of the following elements most increase your trust in a sustainability claim?

59 responses



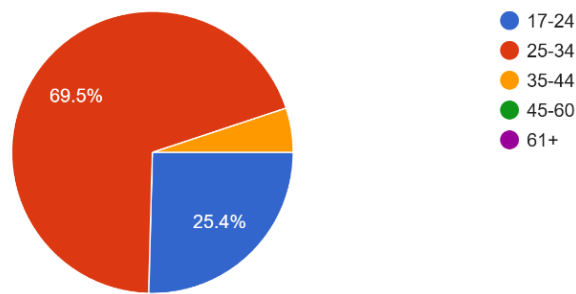
**Figure 2: Elements that increase user trust in sustainability claims**

Source: Author’s own research, 2025

In *Figure 2*, the visual elements differ in their convincing power. As visualized, Photographs are the most trusted element which was chosen by 50.8% of respondents, followed by green labels and certifications with 42.4%. So, some graphic elements strongly influence trust in sustainability awareness. Transparency about local impact and simple icons also play an important role, while narrative elements like community stories are less persuasive and that might be due to the language barrier. However, some respondents trust no elements at all, which calls attention to the importance of visual communication.

17. Please indicate your age group:

59 responses

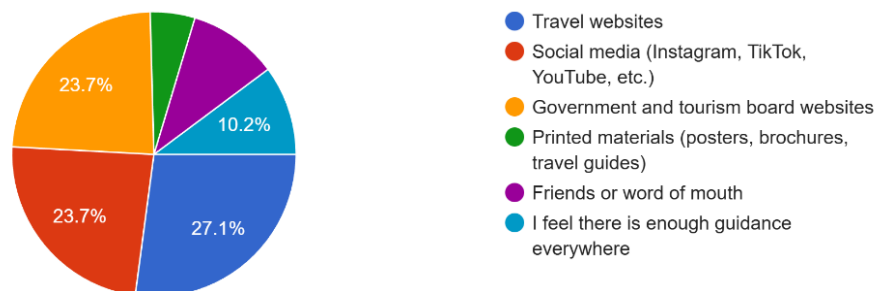


**Figure 3: The age group**  
Source: Author's own research, 2025

The findings from the questionnaire visualizes a clear gap in how sustainability guidance is communicated to younger travelers on *Figure 3*, particularly those between 17–34 years old, who make up most respondents with 25.4% aged 17–24 and 69.5% aged 25–34. This demographic is engaging in digital platforms, yet their feedback is saying that some online platforms are not clear enough to help them understand sustainable travel practices.

16. Where do you feel there is a lack of guidance or tips about sustainable travel practices?

59 responses



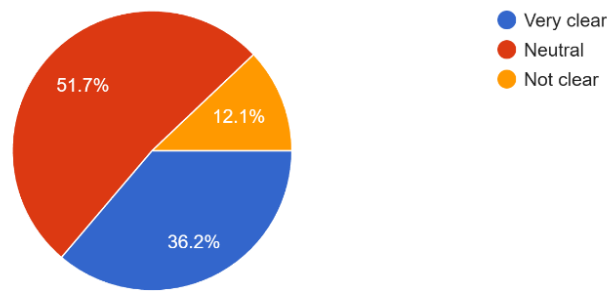
**Figure 4: Question about the lack of guidance about sustainable travel practices**  
Source: Author's own research, 2025

When I asked where they feel a lack of guidance as shown in *Figure 4*, the largest segment 27.1% pointed to travel websites which are also the online platforms for guidance and to find all tips, where users usually are expecting to find information are failing to present sustainability in a meaningful or accessible way. Another 23.7% felt that social media lacks clarity, even though it is a primary channel for young audiences to find information from.

Added to that, government and tourism board websites also account for a gap of 23.7%, showing that even authoritative sources are not meeting users' expectations for clarity. A smaller percentage supports the idea that some printed materials are insufficient, reflecting the shift toward information that is provided digitally first especially among this age group, generation Y and Z.

15. How clear are the design elements (icons, colors, layout, text) in helping you understand sustainable tourism practices?

58 responses



**Figure 5: Question about the clarity of design elements in helping you understand sustainable tourism practices**

Source: Author's own research, 2025

In a related question on design communication, as on *Figure 5*, only 36.2% of respondents felt that existing design elements such as icons, colors, layout, and text are very clear in communicating sustainable tourism practices. More than half, 51.7% selected neutral, meaning that users often encounter design patterns that neither help nor block them, but unfortunately fail to guide them toward understanding the message that users are supposed to smoothly get. The remaining 12.1% found these elements unclear, highlighting inconsistencies and a lack of intuitive visual guidance.

Overall, these insights point to a critical UX opportunity which is, the younger travelers are needing sustainability to be more visible, more intuitive and more integrated into the digital environments they already use.

### **3.2. Qualitative Data Collection and Analysis**

To begin understanding how sustainability is communicated in Central European tourism, I went through some websites and saw the design quality review of several travel websites and digital platforms commonly used by tourists today. My goal with this research is to see if sustainability messages are visible and accessible in the user experience of the websites and applications or not. By navigating these platforms as a traveler, I went through the digital platforms and saw how guidance is presented, how intuitive the design is and checked the visual and interactive elements how they support wise choices. This step provided an essential foundation for identifying gaps, strengths and opportunities in sustainability communication across digital tourism environments.

Therefore, I picked 6 digital products which have been mostly visited by travelers and tourists. Starting with the application Travel Green Europe, which is a user-friendly tool designed for responsible travelers that are looking for sustainable tourism options. Its benefits are providing real-time lists of certified sustainable products, services as well as destinations, connecting users with green experiences worldwide. The app helps users find green destinations easily also shows the offers and touristic activities, and that surely helps travelers to make the best decisions while exploring specific places to find it crowded. By highlighting sustainable options, travelers can create a better connection with nature to live sustainable adventurers.

However, there is also website called Green Pearls, which is a platform that lists sustainable accommodations and destinations, focusing on an authentic sustainable commitment rather than just marketing. Each partner accommodation has a clear microsite demonstrating its environmental and cultural initiatives, influencing travelers to look deeper than just green labels. Their user experience highlights sustainability stories, including practices like regional sourcing, biodiversity protection and great employee treatment. By prioritizing these features, Green

Pearls facilitates conscious travel choices mixed with simple sustainability measures. This approach distinguishes it as a trusted platform in sustainable tourism.

Added to the list, a booking platform, Eco Hotels. It is designed specifically for eco-certified hotels, highlighting sustainability throughout a simple and original user experience. The website's interface differentiates eco-certified stays from normal ones which makes green choices visible and more accessible right from the start of the searching section. Added to that, there's a very practical feature which is the sustainability filter, the labels are placed in a clear way on the search and results pages, which simplifies the process of finding ecological accommodations. The booking flow upholds the green value by showing that each booking contributes to planting a tree and that's not just a platform but it's a new emotional connection between the user impactful action and the environment. Altogether, the design balances usability with a strong layout, color grading and consistent iconography that makes users trust it and would surely visit the website again.

Another website, BlaBlaCar's, a platform that offers the possibility to book carpool rides across Europe. The search bar section is simple, with clear entry fields for departure, destination and date which is the standard flow for most of the digital platforms. However, there are some UX issues like inconsistent driver trustworthiness and the lack of instantaneous information which can cause uncertainty. Aesthetically, the design is consistent, but the user experience which is the functional side can get better especially when it's about the icon for the driver and passenger details, the research investigations have shown it's clearer to make the driver section more obvious if we add a distinctive icon.

Moving on to the fifth digital product, the mobile application Komoot, which is a website for hikers and cyclists that offers an easy platform to plan sustainable outdoor adventures. The interface is intuitive with clear filtering, distance in maps and types of sports and has voice navigation. A highlight is the community integration with photos and tips to exchange experiences. However, the application can improve by addressing occasional complexity in route planning, especially with waypoint management and might add multilingual support for broader accessibility. Adding more personalized dashboards and smoother offline maps also can further elevate usability and engagement of tourists.

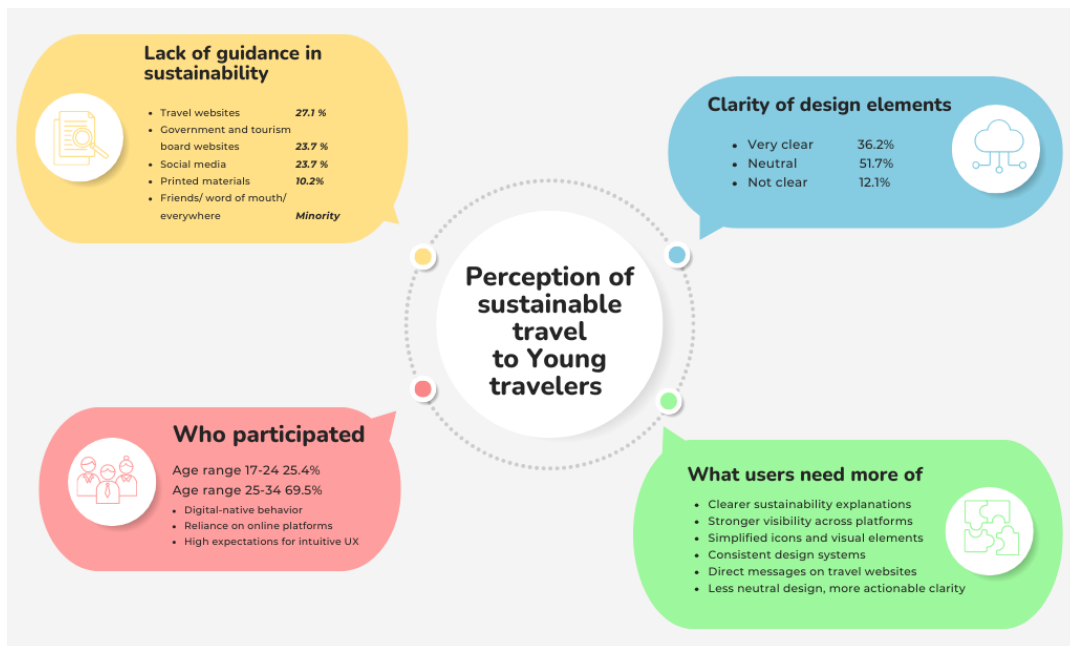
Last and not least, the application JouleBug, although it adopts a modern design there are still things to report in the design. So, the application is good when it comes to organizing sustainable actions into categories and that's what makes it simple and direct to the point of motivating users, using clear icons and a calm color palette. However, users have reported feeling overwhelmed when they found many choices and a complex hierarchy in earlier versions, which impacted negatively the navigation. That's why recent rebranding of web design has improved some features and reduced cognitive load would enhance usability. Added to that, the improvement of the onboarding has provided a clearer design which was helpful for new users to engage quicker with the platform. In conclusion, JouleBug balances a beautiful, gamified experience with a renewed and sharpened user focused interface that proves that having a consistent design and smooth user experience is essential for a successful platform.

## **4. Results**

### ***4.1. Perceptions of Sustainability Messaging and Design Impact***

The research results suggest that digital platforms need stronger design elements to make the new generation in Central Europe more aware of sustainability to decide the right choice before traveling. First, we have the quantitative findings from the survey provide a clearer picture of how young travelers interpret and interact with sustainability messages across different platforms. With a respondent base composed primarily of individuals aged 17–24 (25.4%) and 25–34 (69.5%), the results reflect the perspectives of digitally fluent users who frequently rely on

online sources when planning trips. The result can be visualized like the mapping illustrated in *Figure 6*.



**Figure 6: Perception of sustainable travel to young travelers**  
Author's own research, 2025

According to the responses of the participants, I noticed some gaps in the accessibility and clarity of some travel platforms, which are approximately more than half of the responders who identified travel websites as the primary area where sustainability messages feel unclear and not sufficient. So, this indicates that many young travelers are not receiving the clarity of sustainability and they are now expecting from the responsible of digital touristic platforms to provide convincing content.

The second quantitative item examined the clarity of design elements, including icons, color schemes, layout structures, and text used to communicate sustainable tourism concepts. Here, 36.2% of respondents rated existing design elements as “very clear,” while 51.7% selected “neutral,” indicating that for most users, the design is not actively helping them understand sustainability concepts. Only 12.1% felt the design was “not clear”. From a UX point of view, the meaningful number is the high proportion of neutral responses, which suggests not dissatisfaction, but rather a missed opportunity. This means that users are not confused, they’re just not being guided. All together, these quantitative results show that while sustainability content is present in multiple channels, its delivery lacks the clarity, visibility and interactive design that young travelers are expecting. This data highlights a need for stronger design systems and more user-centered communication within digital tourism platforms.

The quantitative findings from this study reveal a significant gap between young travelers’ expectations and the current state of sustainability communication across digital tourism platforms. The numerical patterns clearly show that while sustainability messaging exists in various forms, its visibility and clarity are not meeting user needs particularly on mainstream travel websites. With 27.1% of respondents stating that travel websites lack adequate sustainability guidance, the data points to a substantial usability challenge. Given that websites are typically the first step in the travel planning journey, this percentage reflects a meaningful shortcoming in how these platforms’ structure and present eco-friendly information. Similarly, 23.7% of participants indicated social media channels do not provide sufficient clarity. Considering that younger users rely a lot on platforms like Instagram and YouTube for quick educa-

tional content and recommendations, this gap suggests missed opportunities for exploring visual storytelling and direct easy communication to promote sustainable behavior. Another 23.7% agree that government and tourism board websites are somehow insufficient, which shows that even authoritative sources are not strong enough to be accessible or easy to use for sustainability guidance.

The results concerning design clarity further reinforce this narrative. Only 36.2% of participants found current design elements, icons, color coding, layout, and textual framing to be very clear, while 51.7% remained neutral. This neutral majority is particularly telling it suggests that the design is not actively confusing, but it is also not providing the level of direction or emphasis users require to truly understand sustainable tourism practices. In UX terms, neutrality often signals a lack of intentional hierarchy, meaning important information fails to stand out or guide users effectively. The remaining 12.1% who found the design unclear underscore the need for a more intuitive approach to visual communication.

Taking together, these quantitative patterns highlight a pressing need for improved design strategies on websites and applications. Users clearly want sustainability messaging that is easy to find and has a smooth flow to achieve a goal during their browsing experience, and that can be done with stronger iconography, well structured layout, clear explanations and consistent design that enhances engagement. Overall, the quantitative collected data is pointing that digital tourism platforms must rethink how sustainability information is designed and delivered to support user engagement and promote responsible travel behaviors.

User experience design has many possibilities that deserves to be applied. The best practices are not only making the experience fun, but also to keep it more into the everyday life of users. While analyzing the websites, I noticed that the green elements on most of the digital platforms are not modern or chosen in a trendy way, it is more of a standard and

Unfortunately, some digital platforms are not well developed to aware tourists about sustainability, however, UX/UI designers play an important role in testing digital products. UX/UI Designers are offering a variety of experiences that benefit tourism and sustainability. Some people still struggle to find specific information or directly understand a feature. Within the research and the analyses that have been done, UX/UI can also help in the control of user's decisions and behaviors, which some respondents cited as important things to show in websites and apps.

#### ***4.2. Advantages and disadvantages***

The qualitative analysis identifies the strengths of sustainability oriented UX/UI design across the selected digital travel platforms. Clear visual cues such as sustainable labels, green color gradients, and intuitive iconography are the main key advantages, as they guide users efficiently toward environmentally responsible choices. As per the questionnaire, tourists agree that interfaces with structured layouts and clear sustainability messages help travelers make quick eco-friendly decisions. Platforms with strong user-experience design also support behavioral change by presenting real-time information on carbon impact, encouraging people to use sustainable transport alternatives, going for certified accommodations, which is the best way to plan a trip. Furthermore, easily accessible educational content reinforces awareness over time which creates a lasting engagement with sustainable practices.

However, the analysis also reveals several barriers such as platforms that use inconsistent illustrations or icons as well as lack of photos that represent the case users should be concerned about. Fortunately, some respondents appreciated the availability of sustainability information even with the low quality of hierarchy, which weakens the power of the perception of the message in the design. My research findings also show the necessity of improving design element to prevent any doubts from the users regarding the authenticity of sustainability affirmations, especially that some brands are just adding messaging just for decoration, which is greenwashing. Added to that, limitations in the visuals when we compare sustainable and non-sustainable

options are disadvantages that obstruct user understanding. However, the challenge in achieving clear sustainable UX/UI design to ensure that sustainability features remain visible, we should highlight the messages and enhance the aesthetic side of digital interfaces.

## 5. Discussion

The results we found in the mixed research method agree that integrating sustainability-oriented UX/UI design into travel platforms can bring significant potential to influence travelers' awareness and behavior. Visualizing messages in an intuitive way and making information accessible in a clear pathway will surely enable travelers to recognize environmentally responsible options and start being conscious about how their choices contribute to sustainable tourism.

Choosing the right design strategy, such as design indicators, animations and visually coherent sustainability graphic elements will surely allow users to navigate digital platforms with ease and make decisions that align with sustainable travel practices, which is the goal that companies should seek to protect over touristic destinations.

The final findings of this research confirm that personal attitudes can change if the user gets engaged emotionally with the digital environmental context, which creates a new reflex of knowing the rules and following them to keep the environment safe. However, continuous communication, clear standard indicators of sustainability and noticeable professional efforts from designers toward digital sustainability claims.

As UX/UI practices evolve and design standards become clearer, these tools will only grow more effectively to become applications with virtual reality options or with an augmented reality feature to make users see the impact of not making sustainable decisions. The positive reactions from users in this study show that people want to engage with sustainability when it's communicated in a way that feels honest and helpful to keep using.

In conclusion, the findings from both the survey and the qualitative analysis show that digital design is important in shaping sustainability awareness and behaviors of young travelers in Central Europe. The research reached its goal by demonstrating that well researched UX/UI elements will not only communicate sustainability but also motivate responsible choices to help fill the gap between online information and actionable travel decisions. Through these mixed methods of research, the study confirms that sustainable UX/UI design is becoming essential for the future of environmentally conscious tourism.

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