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THE ADOPTION OF THE GREEN LABEL BY SMEs IN THE HOTEL SECTOR: A LEVERAGE FOR REASSURING THEIR CUSTOMERS

ABSTRACT

Purpose: In the era of new technological revolution, seeking to survive and guarantee business sustainability in their digital internationalization, enterprises choose to become environmentally oriented. The need for new green business models has become evident in recent years, and enterprises offer green services in creative and eco-friendly ways. However, does the display of a green label on hotels' websites really promote the eco-conscious tourists' online booking intention? This study examines the impact of the perceived label on the online sustainable hotel booking intention of the eco-conscious tourists, using the foundations of signal theory.

Design/Methodology/Approach: This study adopted a structural equation model to integrate several constructs with a sample of 349 validated responses.

Findings: The empirical results highlight, the importance of the green label perception on the eco-conscious tourists' booking intention of online sustainable hotel and the role that green trust and green perceived risk play as a mediating variable between the perception of the exposed label and the booking intention. Indeed, when booking a sustainable hotel online, the tourists may be sensitive to the exposure of a green label. Therefore, this signal decreases the perceived risk of unsustainability and ultimately increases the trust in hotel's sustainability.

Implications: In light of these results, theoretical and managerial implications are discussed. The findings make an important contribution to SMEs sustainability and internationalization by exploring new ties. This study considers how SMEs and specifically hotels start following green practices (e.g., adoption of an eco-label) relevant to their international environment where they operate and in response to global pressures. SMEs can survive better in the highly competitive global environment where they need to employ more green practices, however, managers should consider how green trust and green perceived risk can affect customer behaviour. It also adds to the existing literature by dealing with customer perceptions about the green label of sustainable hotels and its subsequent effect on booking intention.

Originality/value: This study had shown the importance of the display of green label on the eco-conscious tourist's online booking intention.

Keywords: Online booking intention; eco-conscious tourist; green label; green perceived risk; green trust; signal theory

1. Introduction

Today, to survive and guarantee business sustainability into evolving social, environmental, and technological scenarios, businesses are moved towards following complex growth paths (Denicolai *et al.*, 2021). Rapid and sometimes unforeseen changes in climate, technology, and society calls for sustainable development from many stakeholders, and add pressure to enterprises for the implementation of sustainability practices (Denicolai *et al.*, 2021; Maksimov *et al.*, 2019). These circumstances are expected to enhance businesses' motivation to achieve environmental sustainability and competitive advantages, making sustainable growth a standard to be pursued by businesses in many countries and in different industries (Denicolai *et al.*, 2021; Maksimov *et al.*, 2019). Notably, with the development of societies, sustainable development is considered as one of the main directions of social economies and green development as a new economic form that aim at the balance between economy, technology, and environment (Dmitrović and Žabkar, 2010). The important role that small and medium-sized enterprises (SMEs) could play in the race for sustainability cannot be ignored. Much academic and public attention has been paid to sustainability initiatives from large corporations, however, collectively, SMEs are among the most common form of enterprises in Europe (Sohns *et al.*, 2023). And even though these enterprises can respond slower than larger multinational businesses to calls for sustainability and reduced environmental impact, their footprint should not be overlooked (Leonidou *et al.*, 2017).

Within this context, environmental phenomena such as climate change affect investment, planning, and operations as well as demand in SMEs in tourism industry (Scott and Gössling, 2022). Importantly, responses to global environmental changes, being in parallel with economic and social change, are giving the route to a sustainable economy and to new innovative business models that are designed to maximise societal and environmental benefit, over economic growth (Bocken *et al.*, 2014). In the face of these phenomena, the environmental concerns felt by SMEs in tourism industry underline the importance of shifting to a more environmentally-conscious and -friendly tourism. Extant literature has identified several incentives for SMEs internationally to optimize sustainability by following green practices. These include the creation of highly competitive networks of sustainable businesses in marketplaces where larger businesses are less established and supplying international supply chains through various sustainable practices (Moore and Manring, 2009).

This new trend in tourism industry has given rise to a new field of research around tourism described as "sustainable" or "eco-conscious". According to the World Tourism Organization (1993), being sustainable refers to "*tourism that meets the needs of current tourists and host regions while protecting and enhancing opportunities for the future*", while eco-conscious tourism means "*small-scale tourism that involves visiting natural areas while minimizing environmental impacts*" (McBoyle, 1996). Environmental deterioration in tourism is the result of over-consumption of energy and resources (Niedziółka, 2014). To compensate for this environmental damage, the tourist accommodation sector has integrated sustainability into its strategy for several years. To this end, these enterprises develop responsible behaviours such as conservation of the local water supply and wastewater recycling (Hobson and Essex, 2001). The

literature points out that the green label distinguishes between sustainable and non-sustainable tourist establishments (Sloan *et al.*, 2009). However, will this sustainability signal encourage tourists to book this type of accommodation? Research in the field of sustainable tourism accommodation has highlighted important results in relation to environmental awareness. In other words, if tourists have higher environmental awareness, would their choice of accommodation tend to be more sustainable? It may be noted that the positive evolution of the number of tourists aware of their environment would seem to be positively correlated with the increase in the number of tourist accommodations incorporating sustainability (Martínez García de Leaniz *et al.*, 2018).

This environmental concern and awareness have given rise to a new group of tourists called “sustainable”, “responsible”,¹ or “eco-conscious”.² These terminologies reflect the different levels of sustainability of the tourists and have in common their awareness of the effect that their travel has on the environment. At the same time, the increasing government regulations, extended consumer environmentalism and ongoing pressure from stakeholders that have made enterprises internationally to go green, have also gave rise to more eco-friendly services preferences among tourists-consumers (Punyatoya, 2014). This green trend is prominent in both developed and developing countries (Punyatoya, 2014).

With the emergence of this new business model, the challenges as well as the opportunities that environmental sustainability brings for the enterprises internationally, and this type of consumers who are more environmentally conscious, the importance of understanding the specific behavioural characteristics of this niche has become crucial. Especially since this understanding is independent for the resilience of the tourism sector in general, and that of accommodation in particular. This will enable hoteliers to ensure their survival and competitiveness in global markets by adapting their supply to the demand of this niche of eco-conscious tourists. Thus, the study of the online sustainable hotel booking process will feed the literature not only in the field of tourism management but also in the resilience of sustainable tourist accommodation. It is in this sense that we analyse the resilience of the tourism sector to the growth of this new type of tourists in conjunction with two types of factors: personal and external. The first are the characteristics related to the eco-conscious tourists such as their perception of risk and trust, while the latter concern the tourism enterprises with the label posted on their website and/or on the online booking platform. In addition, this article will allow hotels to offer accommodation that is appropriate to the expectations of this eco-conscious target.

Previous studies, however, have provided limited insights into the important issue of environmental awareness effect on the online sustainable hotel booking intention for the eco-conscious tourists. The aim of this paper therefore, is to study the impact of the green label on

¹ A tourist who "A tourist with the need to avoid having a negative impact on the destination" (Juvan and Dolnicar, 2016). (Page 33)

² The responsible tourist "demonstrates a range of priorities, such as a willingness to respect local communities, to share the economic benefits of tourism directly with local people, and to mitigate the environmental impacts of their vacation" (Weeden, 2011). (Page 215)

online booking intention for eco-conscious tourists, through the mediating effect of green perceived risk and green trust. The two aspects of extending sustainable behavior in a tourism context and the choice to stay in a sustainable or eco-labeled hotel are among the decisions and behaviors of eco-conscious tourists (Ganglmair-Wooliscroft and Wooliscroft, 2016). Thus, this article further explores the moderating effect of environmental consciousness in the relationship between green label and eco-conscious tourists' online sustainable hotel booking intention.

Our study also responds to several calls to consider a green certificate as an important strategy to raise the green image of a hotel and enhance customers' trust in the services offered (Gil-Soto *et al.*, 2019). Tourists concerned about environmental consequences are also sensitive to the sustainable behaviors of the hotel where they make their reservation. One of the strategies used by hotels to promote their sustainability is expressed through the green labels displayed on their website, which allow the "eco-conscious" tourists to be reassured when booking online (Ponnappureddy *et al.*, 2017). This label is defined as a "*management tool that can visually inform customers of new green features of a product*" (Thøgersen *et al.*, 2010). By extrapolation, in the context of sustainable accommodation, this informative signal could be determinant of online booking intention today, specifically for the eco-conscious tourists who are becoming important players in the tourism market (Agag and Colmekcioglu, 2020). The influence of the green label has been little studied in the field of sustainable tourism despite its importance in the context where sustainability represents a major concern of both managers and tourists. To increase the tourists' green trust and decrease the green perceived risk, it is necessary to study the impact of the green label on the eco-conscious tourists' sustainable hotel booking intention online. Studying the impact of green label becomes even more important as green entrepreneurs are considered fundamental pillars of the sustainable economic development, supporting green economy in several ways.

Drawing from the signal theory (Arrow, 1973), which will allow us to understand the mechanisms that are involved during the intention to book a sustainable hotel online, our study is guided by the following research questions:

1. Can the green label be used as distinctive information affecting the intention to book a sustainable hotel online?
2. Does the green label build trust in eco-conscious tourists who are looking for this type of sustainable accommodation?
3. How does the adoption of a green label help hotels towards their internationalization?

Overcoming the approaches of previous studies, the contributions of our study are fourfold. First, our study sheds light on the mechanisms of signal theory applied to the field of tourism. Second our study, analyze the characteristics linked to both the eco-conscious tourists (green perceived risk, green trust) and the tourism entity through the transmitted sustainable signal (green label). Third, our research underlines the importance of using highly targeted communication elements such as the label that meet the needs of this demanding and sensitive clientele and highlights the need of moving away from traditional business models to innovative

business models that use green strategies as an alternative approach to deliver the required change and rethink perceptions of value. In addition, this study makes up for the theoretical gap linked to the lack of quantitative studies on the impact of the green label on the behaviour of the tourist on the one hand, and on the intention to book a sustainable hotel on the other. Finally, we consider how hotels by following green practices relevant to their international environment where they operate and in response to global pressures, they can survive better in the highly competitive global environment.

In the next sections, the relevant literature on SMEs environmental sustainability and the antecedents of online booking intentions is reviewed and the research hypotheses are developed. Afterwards, the steps of the methodology are explained and illustrated using a structural equation model. We conclude with a discussion of the findings, implications for theory and practice, limitations and future research directions.

2. Literature review

Environmental Sustainability in SMEs

To become successful, many enterprises have started transforming their processes and activities toward digital evolution and adopting new business models. Today, digital transformation and sustainability are increasingly two interrelated challenges for SMEs but at the same time they open new opportunities for these enterprises. But to what extent are these enterprises ready for this transformation? (Denicolai *et al.*, 2021)

Enterprises worldwide have started moving toward more sustainable product offerings and services (Tiago *et al.*, 2021). Specifically, environmental sustainability and digitalization of enterprises is increasingly the focus of internationally oriented studies (Chan, 2013; Han *et al.*, 2011; Han *et al.*, 2009). Along with digitalization, environmental sustainability is considered as one of the main growth paths for enterprises in the contemporary economy. Increasingly, businesses are encouraged to implement sustainable practices and processes to eliminate their influence on the environment (Denicolai *et al.*, 2021). Towards this direction, enterprises in hospitality industry, and notably hotels, have taken various actions to declare their commitment to sustainable tourism, such as having eco-labels or adopting environmental management systems (Tiago *et al.*, 2021). However, why an enterprise would decide to adopt an eco-label?

Trying to understand why firms in France decide to adopt an eco-label, Leroux and Pupion (2018) describe the important role that an enterprise's entrepreneurial orientation can play. Notably, the more an enterprise shares the characteristics of entrepreneurial orientation, namely innovation, pro-activity, propensity to take risks, autonomy, and competitive aggressiveness, the more possibly is to adopt an eco-certificate type innovation. In other words, the enterprising search for a competitive advantage, that is an enterprise's will to dominate its competitors using aggressive actions, can result in the adoption of an eco-label. Similarly, the entrepreneurial ability to take risks can also explain the reason behind an enterprise's choice to adopt a green label and act with environmental responsibility (Leroux and Pupion, 2018).

Therefore, entrepreneurial orientation is an important constraint to be considered when dealing with sustainable development and makes it possible to explain the behaviour of a green label adoption.

The results from studies examining the adoption of an eco-label by SMEs in various industries vary. Karlsson and Dolnicar (2015) argue that ecolabel does not influence the general tourist demand, however, there is a niche market that is affected by ecolabel when selecting among alternative tourist providers. Similarly, by analysing sustainability instruments adopted by hotels in Spain, Ayuso (2007) found that even that certification systems such as ecolabels are expensive to obtain and sometimes difficult to be implemented, they can provide hotels with benefits like cost savings in the medium or long term as well as official recognition. However, tourists and consumers in general, might not be engaging with green labels. Studying environmental values of international visitors to New Zealand, Fairweather *et al.* (2005) found that biocentric visitors, whose profile is consistent with the one of green visitors who care about the environment and are aware of environmental issues, pay more attention to ecolabels. In addition to this, Han *et al.* (2009) found that hotel customers' eco-friendly decision-making processes are affected by their attitude towards green behaviors in general.

Eco-conscious consumers

According to Cronin *et al.* (2011), eco-conscious consumers are known to be involved in ecological activities. According to Polonsky (2011), they have a self-developed decision-making process that drives them to act in accordance with the environment. According to the same source, these types of consumers are more sensitive to products labelled “sustainable” and/or services with minimal environmental impact. The green label therefore acts as an environmental guarantee for this type of tourist, according to Thøgersen *et al.* (2010).

By extrapolating these definitions in the field of tourism, Mkono (2020) states that eco-conscious tourists represent “a type of tourist who proposedly stands in contrast with the alternative, viewed as a threat to the destination.” According to him, these tourists are distinguished by personal characteristics such as eco-hypocrisy, moral hypocrisy, and authenticity. Despite the development of this niche of eco-conscious consumers and tourists in particular, the literature around their behaviour remains limited. In the same vein, Hameed and Waris (2018) highlight the existence of gaps in the literature regarding studies between the effectiveness of green labels and the behaviours of eco-conscious consumers. This study tries to overcome this theoretical gap by studying both the behaviour of eco-conscious tourists and the impact that green labels have on them.

Several studies have shown that the Internet has become one of the essential sources of tourism information (Kim *et al.*, 2007). In fact, this is the reason why tourism is among the industries where online shopping is becoming increasingly important (Kooti *et al.*, 2016). Wang and Li (2022) studied the difference between online purchase intention and purchase behavior. Through a meta-analysis, this research points out that the act of purchasing in the physical world is mainly influenced by internal factors such as satisfaction and emotions. Whereas the intention

to buy online is a more rational mechanism based on external factors related to information, service quality and trust (Yildiz, 2007).

In the literature on tourists' behavior in the virtual world, researchers have highlighted a wide range of determinants of hotel booking intention online. Indeed, we can group these factors into two broad categories: (I) personal related to the tourist, and (II) external related to either the booking site or the tourist entity. There are several hotel characteristics that exert influence on online booking intention: price-quality ratio (Roberts and Lattin, 1991), the number of stars and price (Cezar and Ögüt, 2012), the beauty and aesthetics of the hotel (Baek and Ok, 2017), the hotel image (Lien *et al.*, 2015), online hotel evaluation (The rating) (V. Casaló *et al.*, 2015), uniqueness (Wang *et al.*, 2020), traditional architecture (Wang *et al.*, 2020), family friendliness (Wang *et al.*, 2020), foreign-style offerings and services (Wang *et al.*, 2020), luxury amenities (Wang *et al.*, 2020), and entertainment (Wang *et al.*, 2020). The literature related to these types of characteristics, which influence online booking intention seems to be dominated by studies around online reviews. Sim *et al.* (2021) added the influence of online reviews on this intention. With this in mind, El-Said (2020) states that only reviews with a negative valence have a significant influence on the online booking intention.

On the other hand, the website characteristics that impact the online booking intention are numerous. We can refer to the ease of use (Wang *et al.*, 2015), the usefulness and perceived risk of the website (Sun *et al.*, 2020), the quality of information (Wang and Wang, 2010), the diversity of choice, the existence of information filtering mechanisms (Guillet *et al.*, 2020), the presence of photos and their descriptions (Bufquin *et al.*, 2020), and the recording and use of personal data (Park and Tussyadiah, 2017).

As for the personal characteristics of the tourists, it appears that culture, (Quaglione *et al.*, 2020), commitment, trust, attitude (Agag and El-Masry, 2016), detailed browsing behavior (Lu *et al.*, 2010), repeated visits, and browsing or purchase history (Kooti *et al.*, 2016) affect their intention to book a hotel online. San Martín and Herrero (2012) specifically explored the effect of tourists' psychological factors on their online booking intention. According to this study the psychological elements that impact booking intention are "*performance expectancy, effort expectancy, social influence, facilitating conditions, and innovation capacity.*"

Extrapolating the definition developed by Ozturk *et al.* (2016), the intention to book online means the tourist's behavioural intention to book a sustainable hotel online. This intention has attracted much attention from tourism researchers as it has a positive and significant impact on online booking behaviour (Sparks and Browning, 2011). For the intention to book a sustainable hotel online, several determinants have been developed in the literature, such as the sustainable image (Tanford *et al.*, 2020); benefits received (Ponnappureddy *et al.*, 2020); and perceived value and trust (Kim *et al.*, 2017). Our study attempts to study the impact of the green label perceived risk and trust on this process.

Some studies have investigated the impact of different types of combined features on online booking intention. Sparks and Browning (2011), for example, combined hotel

characteristics (online reviews) and personal characteristics (perception of trust) on online booking intention. This study found that online reviews influence perceived trust, which in turn impacts booking intention. For the eco-conscious tourists, the literature has also identified factors that determine their intention to book online. In some other sources, we find perceived benefits (authentic and environmental) and perceived value, which have a significant influence on sustainable hotel booking intention online (Sindhuri *et al.*, 2017). In addition, trust, and perceived usefulness of information and attributes/amenities of sustainability also influence sustainable hotel booking intention online (Ponnappureddy *et al.*, 2017). Similarly, the higher the perception of sustainable hotel information, the higher the perceived trust which leads to a positive intention to book a sustainable hotel online (Ponnappureddy *et al.*, 2017).

As a result, we find that sustainability-related factors (sustainability attributes, perceived environmental benefits) dominate online hotel booking intention for the eco-conscious tourists. Could the label be a prevalent criterion for online sustainable hotel booking intention? This issue is supported by the results of Shin *et al.* (2021) pointing out that the social responsibility of the hotel positively impacts the hotel performance through the booking indicators.

The study of the impact of the label on purchase has been covered in several disciplines. In the food industry, for example, the label helps to reassure consumers about the quality of the food products, and therefore stimulates their purchase intention (Leach *et al.*, 2016). In marketing, Rashid (2009) points out that consumers respond positively to the label, which drives them to make the best purchase decision. Within tourism industry, studies have praised the importance of the label in promoting tourist destinations and increasing their competitiveness (Capacci *et al.*, 2015). However, according to the same source, quantitative studies on the economic impact of the label remain "almost non-existent". For this reason, we tend to apply this research aspect in tourism. However, the importance of the label in online booking intent may be inspired by studies highlighting the impact of this green signal on purchase intent (see, for example, Jeddi, 2010; Huang and Lu, 2016) and on online purchasing intent (Yu *et al.*, 2018). Our study addresses this issue by investigating the relationship between green certification and sustainable tourism demand through the online sustainable hotel booking intention of the eco-conscious tourists.

To explain online booking intention, the literature has relied on psychological theories or even on cognitive processing as a complete process (McCabe *et al.*, 2014). However, little research has considered the context of uncertainty that sustainable tourists would experience, specifically. To investigate the research problem, we mobilize the signal theory. This theory allows us to study the information asymmetry related to the hotel's sustainable signal (green label), and its impact on the intention to book a sustainable hotel online. This link is mediated by two constructs: the green perceived risk and the tourists' "green" trust. In the context of our research, a green label refers to "*a certification of a particular level of environmental performance in the production of an internationally marketable product*" (Buckley 1992; 2002).

The results of Hahnel's (2015) work highlight that tourists with high ecological motivation are more sensitive to green labels in making sustainable purchases online. Furthermore, it has been shown in the food industry, for example, that labels have a strong impact on purchase intention (Abdul Latiff *et al.*, 2013). For this reason, we attempt to analyze whether green labels displayed by the hotel structure have an impact on sustainable hotel booking intention online especially for the eco-conscious tourists. This is particularly important because the outbreak of the pandemic has increased risk and concern for environmental protection (Alam *et al.*, 2022).

The following section will outline the hypotheses related to the impact of the green signal on online sustainable hotel booking intention based on signal theory.

3. Conceptual framework and research hypotheses

The analysis of online booking intention has been subject to a wide selection of behavioral theories including the theory of planned behavior (Quintal *et al.*, 2010), contingency theory, task-technology fit theory (Kim *et al.*, 2013), diffusion of innovations theory, acceptance model theory (Agag and El-Masry, 2016) and flow theory (Koufaris, 2002). However, tourism research has not considered the context of uncertainty that the sustainable tourists might experience. Confused between the health and/or green risk, the tourists may need to feel confident in order to book their hotel online. Additionally, the influence of perceived risk and trust on online booking intention in tourism has already been suggested by researchers (Pappas, 2016).

Relationships between economic agents (consumers, firms, and investors) are often based on choices and decisions that should be made. However, Arrow (1973) pointed out that uncertainty characterizes the majority of these decisions since they do not extend into the future. The theory of the signal starts from the following principle: "*when there is uncertainty, it is generally possible to reduce it by acquiring information*" (Arrow, 1973). In this sense, would the label displayed on the reservation site reduce the uncertainty related to the sustainability of the hotel establishment?

Signal theory was developed to explain the behavior of two parties with access to different information (Connelly *et al.*, 2011). Indeed, it adopts a strategy based on the actions taken by a signaler (the hotel, in our case) to influence the perceptions and behaviors of the receivers (online sustainable hotel booking intention, in our case) (Zmud *et al.*, 2010). In this sense, Mavlanova *et al.* (2012), adopted signal theory to prove the impact of website signals on the online purchase decision. Yet, no research has examined the impact of the green signal on sustainable online hotel booking intention. This is one of the gaps that our research will fulfill within tourism literature by studying online hotel booking intention from a new angle, which draws insights from the signal theory. Instead of focusing only on the tourists, signal theory will allow us to examine this behavior as a relational interaction between two parties: the tourism entity and the sustainable tourists. This will allow us to detect whether the green label displayed by the hotel would reduce the green perceived risk (of sustainability), increase the level of trust (green), and, consequently, stimulate the intention to book a sustainable hotel online. These

links will be further developed in the following paragraphs. Another element supporting the adoption of this theoretical framework concerns the expectations of these sustainability-specific eco-conscious tourists. Indeed, these tourists would need to feel confident and secure about their environmental impact before booking their hotel online. The signal theory will therefore make it possible to detect whether the durable signal emitted by the green label reduces the risk, increases confidence and therefore leads to a positive reservation intention.

3.1 The hotel's green label and the green perceived risk by the eco-conscious tourists

The green label is considered by Zadek (2007) as an environmental indicator, as it "*communicates complex information regarding a tourist spot about which the customer wants to obtain information in order to make informed decisions*" (Zadek, 2007, pp. 202-205). With the burgeoning demand for sustainable tourism, the green label has thus gained popularity as a signal and important determinant of environmental quality (Cerqua, 2016).

Green labeling is studied in different areas of marketing. For example, in the food sector IT has attracted a lot of attention from researchers studying the impact of green label, especially on consumer behavior (Sogn-Grundvåg *et al.*, 2019). In the tourism sector, green labels have been the subject of different research such as the choice of the green label by the hotel (Leroux and Pupion, 2018); its use as a means of communication (Gössling and Buckley, 2016) or as a strategy implemented by the hotel to attract tourists (Capacci *et al.*, 2015). In the sustainable tourism sector, in particular, the green label represents a "green" marketing strategy aimed at promoting ethical and responsible tourism (Minoli *et al.*, 2015). But no research has studied the impact of the label on perceived risk as it could be in the food sector, for example. In our study, green perceived risk is defined as "the expectation of negative environmental consequences associated with a purchase behavior" (Chen and Chang 2012). It would be interesting to see if the label has an impact on the green perceived risk of the sustainable tourists. Indeed, the study of Yu *et al.* (2018) points out that a quality label decreases the perception of risk and leads to a positive attitude and purchase intention towards the brand. Therefore, from the above discussion we suggest the following hypothesis:

H1: The more sensitive the eco-conscious tourists are to the green label displayed by the hotel, the more their green perceived risk will decrease.

3.2 Green perceived risk and the eco-conscious tourists' "green" trust

Several variants of perceived risk have been studied in the tourism domain (e.g., financial risk and privacy risk (see Yi *et al.*, 2020)). However, green perceived risk remains understudied for the sustainable tourists (Breakwell and Jaspal, 2021).

A body of research confirms a significant relationship between perceived risk and trust (Dohmen *et al.*, 2011). Verhagen *et al.* (2006) confirmed the positive relationship between perceived risk and trust in an online shopping context. In the context of online hotel booking intention, it would be interesting to study the impact of green perceived risk on the "green" trust of the sustainable tourists. The "green" trust is defined as "*a willingness to depend on a product,*

service, or brand based on the belief or expectation resulting from its credibility, benevolence, and ability regarding its environmental performance" (Chen, 2010). Therefore, we could extrapolate the same results as in the context of the sustainable tourists: the green perceived risk may impact the green trust. We can therefore formulate the following hypothesis:

H2: As the eco-conscious tourists' green perceived risk decreases, their "green" trust increases.

3.3 The tourists' "green" trust and the intention to book a sustainable hotel online

As with the risk, variants of trust have been also mobilized in the tourism literature. Ratnasingam (2012) discussed three types of trust impacting the tourists' online hotel booking intention, namely competence, predictability, and goodwill trust.

On the other hand, the impact of "green" trust on hotel booking intention has not been addressed by researchers either for the sustainable hotel. However, Lien *et al.* (2015) state that if the hotel is trustworthy, the tourists' online booking intention is high. We can therefore hypothesize the positive impact of "green" trust on online sustainable hotel booking intention:

H3: The higher the eco-conscious tourists' "green" trust, the more positively impacted their online sustainable hotel booking intention will be.

3.4 Green label and online hotel booking intention: the mediating effect of green perceived risk and "green" trust

The label impacts both trust and trustworthiness of information (Werff *et al.*, 2019). Moreover, it is closely related to sustainability especially in the field of tourism (Edwards and Laurance, 2012). Therefore, the label might have an indirect impact on the online booking intention of the sustainable tourist through the mediating effect of green perceived risk and "green" trust, as discussed previously. We can therefore suggest the following fourth hypothesis:

H4: The more sensitive the tourists are to the green label displayed by the hotel, the more their green perceived risk will decrease, the more their "green" trust will increase, and as a result the more their online sustainable hotel booking intention will be stimulated.

3.5 The tourists' environmental awareness: a moderator of the relationship between the hotel's signal (green label) and the tourist's behavior (online sustainable hotel booking intention) mediated by the perceived green risk and green trust

The concept of environmental consciousness was first formalized in the late 1960s (Roth, 1992). Despite being inherent in human nature, it is difficult to apply a simple definition to environmental consciousness (Cynk, 2017). For Zsoka (2008), environmental consciousness is "a set of affections and an understanding associated with beliefs about the relationship between human behavior and the environment.". Despotović *et al.* (2021), in turn, distinguish four important dimensions of environmental consciousness namely, (a) Environmental knowledge, which refers to the "level of knowledge about environmental problems (global, regional and local) and possible solutions to these problems" (Bamberg and Möser, 2007); (b) Environmental

values (in terms of biospheric concern and connection to nature), According to Caracciolo *et al.* (2016), certain values are positive predictors of pro-environmental attitudes and behaviors; (c) Environmental attitudes which are defined as "expressed psychological preferences in relation to the environment" (Milfont and Duckitt, 2010); (d) Environmental behavior which includes "any intentional or unintentional action that could influence the environment" (Macovei, 2015).

To examine whether environmental awareness as a major feature of these tourists, acts as a moderator of the model, this section will be presented as follows. We will first study the relationship between the green label and environmental awareness. The moderating effect of the latter on the relationship between the label and trust on the one hand and between trust and risk on the other will then be explored. Finally, we will analyze the moderation of environmental awareness on the relationship between risk and online booking intent. This reasoning will lead us to the conception of the hypothesis studying the moderating impact of environmental awareness on the process analyzing the impact of the green label on the online booking intention of eco-conscious tourists through the mediation of the two variables of green confidence and perceived green risk.

The literature has always linked the power of attorney of green products/services to a high level of environmental awareness. This positive relationship implies that the more environmentally conscious the individual is, the more willing he is to buy environmentally friendly products (Lin and Chang, 2012). According to the same source, the use of green products compared to "standard" products is more pronounced among consumers with high environmental awareness. Recently, researchers have pointed out a preference for labeled products more than non-labeled, this is motivated by the environmental awareness that this global crisis sucked according to the results of Duckworth *et al.* (2022).

In addition, the impact of the green label on the reduction of perceived green risk was previously highlighted. However, it appears that environmental awareness plays a moderating role on this relationship based on the results of Hameed *et al.* (2018). Indeed, the more eco-conscious tourists are, the more they refer to green labels to reduce their perception of risk vis-à-vis the environment. For their part, Lee *et al.*, (2020) point out that environmental indices play a moderating role in this relationship between the label and perceived green risk. In the same way, Pancer *et al.*, (2017) defend the same result but with the risk of effectiveness of labelled products. Both studies refer to environmental knowledge as environmental indices, but these may also include environmental awareness according to Lazev *et al.* (1999). Especially since environmental knowledge is positively correlated with environmental awareness (Safari *et al.*, 2018). This leads us, therefore, to conclude that the higher the environmental awareness of the tourist, the lower his perceived green risk against the label posted on the online booking site.

As for the relationship between perceived green risk and perceived green confidence, the moderating effect of environmental awareness is not well developed in the literature. Whatever the impact of the latter on confidence was established by Alamsyah and Febriani (2020) on the one hand, and on the other by Phyper and MacLean (2009) on the other. On the other hand, the

significant relationship has previously been highlighted between perceived green risk and green confidence. As a result, we can conceive that the higher the tourist's environmental awareness, the more his green risk decreases and the more his confidence increases.

Moreover, while the relationship between co-trust and online booking intent is validated (Ponnapureddy *et al.*, 2017), the moderation of environmental conscience on it is not as much explored in the literature even less in the context of online sustainable hotel booking. However, environmental awareness seems to have a positive influence on the intention to book a sustainable hotel online (Martínez García de Leaniz *et al.* 2018). In addition to its influence on green trust as well, we can therefore conclude that the higher the environmental awareness the more trusted the tourist is which leads him to have a positive intention to book sustainable hotel online.

Despite the importance of this construct, no research has examined its impact on online sustainable hotel booking intention. Therefore, we are interested to know if environmental consciousness acts as a moderator of the relationship between hotel signal and online sustainable hotel booking intention. As a result, the following hypothesis is developed:

H5: The higher the environmental awareness, the more the perceived sustainable risk decreases, the more green confidence increases, which positively impacts the eco-conscious tourist's intention to book a sustainable hotel online.

In light of the results from the literature, the theoretical framework and the resulting hypotheses, Figure 1 presents the developed conceptual model:

Insert figure 1

4. Methodology

4.1. Data collection, Procedure and Measures

To test our conceptual model and hypotheses, our research takes a quantitative approach through an online questionnaire. To share it, we asked sustainable hotels to spread it to their customers. We also shared it on different online booking platforms (TripAdvisor, Booking, etc.), and on private groups of sustainable travelers on Facebook.

Data collection took place over a period of one year between December 2021 and December 2022. During this time, we updated the link sharing on a regular basis. Thus, we collected a total of 825 responses, of which 349 have an Environmental awareness upper to 3. So we analyzed only this sample which the respondents have a high Environmental awareness in accordance with our study.

The questionnaire developed to study the conceptual model consists of 13 questions in total. The latter is subdivided into three distinct parts. The first is reserved for the last stay spent in a hotel booked online their intention to book online in the same hotel, the second deals with the constructions of green perceived risk, green trust and environmental awareness. The last part of the questionnaire is dedicated to the socio-demographic characteristics of the respondents, in particular their age, occupation, level of education and country of residence.

The variables of the model are represented in the questionnaire by measurement scales from the literature and by a 7-point Likert scale (Strongly disagree = 1; Strongly agree = 7). All the measurement scales are reflexive, taken from previous research and adapted, for those that are not, to the tourism context. Table 2 gives details of the constructs mobilized, the corresponding scales and their sources. The items of the adopted measurement scales were initially developed in English and then translated into French. A test was conducted afterwards by experts to ensure that the scales are well understood and do not confuse the respondents. The intention to book online in the same hotel being the variable to be explained in our case was measured by the following four items taken from the research of Wang *et al.*(2015).

Respondents are asked whether the hotel they booked had a green label and whether this green label was important to them. This allowed us to study its impact on the intention to return to the same hotel. This effect is studied through the mediation of two other variables, namely green trust and green risk. Green trust is measured by Chen's (2010) 5-item scale covering trust in the firm's environmental performance. In contrast to green trust, green risk refers to the perception of risk related to failure in the environmental performance of the company. It is composed of 5 items taken from the study by Chen and Chang (2012). These two concepts, developed in a managerial context, have been readapted to tourism in the table below. The last variable concerns environmental awareness and its role as a moderator in the relationship between the label and the intention to book online. It is measured in our study by the 5 items of Lillemo (2014) and presents the tourist's awareness of his responsibility to carry out actions aimed at protecting the environment.

Insert Table1

4.2. Quantitative findings

4.2.1. Demographic of the sample

The quantitative data collected following the sharing of the questionnaire amounted to 825 responses in total, 476 of which were incomplete. For this study, we have only exploited the complete returns, which amount to 349 responses. 55% of the tourist respondents were men, while 45% of them were women. Almost all these respondents (98%) live in France. The most prevalent age among the analysis sample is between 46 and 65 years old with a percentage of 42%, 2% of them are between 18 and 22 years old.

60% of the tourists hold a Master degree and higher, 30% of them have a Bachelor, and Middle school certificate +2. This explains the most recurrent occupations in our sample, which

are as follows: 35% senior managers, 37% employees and 20% executives Managers. Table 2 provides an overview of the descriptive analysis of the analysis sample.

Insert Table2

4.2.2. Measurement validity and reliability

A confirmatory factor analysis (CFA) was conducted using Amos 28 with all variables specified as unidimensional factors. The CFA model fit was acceptable ($\chi^2 = 1545.33$, $df = 50$, $p < .000$; CFI = 0.91, IFI = 0.91; RMSEA = 0.05). All factor loadings were statistically significant and above 0.70. We conducted tests on convergent validity, discriminant validity and construction reliability to test the validity of our instrument (Boudreau, M.-C.; Gefen, D.; and Straub, D.W., 2001). Indeed, the average variance extracted (AVE) and composite reliability (CR) values were greater than 0.50 for all factors (see table 2 -3), demonstrating the convergent validity of the measurements (Fornell and Larcker, 1981).

Care should also be taken as common-method bias can occur in a study when using subjective measures over a single period of time. Researchers usually apply one of four post-hoc statistical techniques to check the CMB. Traditionally, Harman's one-factor test indicates a problematic CMB if an exploratory factor analysis (EFA) with all the variables in the study produces eigenvalues that suggest that the first factor accounts for more than 50% of the variance between the variables (Podsakoff and Organ, 1986). The correlational marker technique (Lindell and Whitney, 2001) provides a correction factor through the use of a marker variable (theoretically unrelated to other survey items) of the same scale type. The marker technique of confirmatory factor analysis (CFA) (Williams *et al.*, 2010) uses a marker variable in a CFA model to detect CMV. Finally, the Unmeasured Latent Method Construct (ULMC) test specifies a latent construct with no uniquely observed indicators to represent the shared variance between a method and substantive constructs (Williams *et al.*, 1989).

Also, discriminant validity measures the degree to which a construct is distinct from the others. It is assured when a construct shares more variance with its indicators than with the other constructs in the model (Hair *et al.*, 2006). In other words, the square root of the AVE of each construct must be greater than the correlations of that construct with each of the other three. The correlation matrix on the right-hand side of Table 3 verifies that this condition is met: the numbers in bold in the diagonal represent the square roots. We observe that they are all superior to the correlations between constructs contained in other cells. Discriminant validity is therefore ensured for the four constructs used in this study (Fornell and Larcker, 1981). Convergent validity was assessed by the cross-loading table shown in Table 2 and 3.

The results show that all items load properly on their planned construction, with higher values over 0.70.

Insert table 3

4.2.3. Hypothesis tests

The hypotheses were tested using structural equation modelling (SEM), with the maximum likelihood estimation method which was run on Amos 28 (Model 1, see Fig. 2). The SEM model fit was acceptable ($\chi^2 = 1545.2$, $df = 49$, $p < .000$; CFI = 0.91, IFI = 0.91; RMSEA = 0.05). As hypothesized, the direct effect results revealed that Green perceived risk is negatively influenced by the Green Label ($\beta = 0.218$, $p < .01$), supporting H1. In this way, when a label is displayed on the hotel's website, this signal reduces significantly the green perceived risk for the tourist. Therefore, the green perceived risk influence also negatively the green trust ($\beta = -0.291$, $p < .001$) which supported H2. Thus, the more the tourist perceives a high green risk with regard to a reservation on a hotel's website, the less green trust he will have in the hotel. The relationship between Green trust and Online booking intention is positive and significant ($\beta = 0.210$, $p < .001$) supporting H3. When the tourist has trust in the durability of the hotel's website, he is more likely to book a room in that hotel.

Insert table 4

Mediating role of green trust on higher level online booking intention

This study conducted data analysis using SPSS 28, augmented with PROCESS macro software to test the mediating effect of authenticity (Hayes, 2013). As an additional analysis, we used a bootstrapping approach suggested by Preacher and Hayes (2008) to examine the indirect effects. We did bootstrapping tests with 5,000 bootstrap samples using AMOS (Hayes, 2013; Preacher and Hayes, 2004) to explore the mediation effect on dependent variable online booking intention.

The analysis of the relationship between green perceived risk and Green trust shows that the total effect was $\beta = 0.662$, whereas the direct effect (after controlling for the mediator) was $\beta = 0.1090$. This reduction in the β -weight confirms that Green trust mediated the effect of green perceived risk on Online booking intention. In addition, the mediation was statistically significant when the 95% trust intervals did not contain zero. The lower limits of trust intervals (LLCIs) and upper limits of trust intervals (ULCIs) were also calculated, and the results indicate that Green trust influences significantly mediated Green perceived risk to Online booking intention (LLCI = 0.0108, ULCI = 0.1119). Hypothesis is confirmed.

Multi-group analysis lower environmental awareness vs. upper environmental awareness

To test hypothesis H5 (a) (b) and thus find out if the responses of respondents with a high environmental awareness are more sensitive to the green labels displayed by hotels and in turn be more inclined to book online in these hotels, we divided our sample in two, as suggested by Lubke and Muthén (2004), by taking the top quarter percentile for group 2 ($n=138$) with Upper Environmental awareness and for group 1 ($n=211$) for respondents with Lower Environmental awareness. The results show that group 2 who see the green signal has a perception of risk that decreases significantly compared to group 1 ($\beta = -0.19$, $p < .001$) higher statistically significant than group 1 ($\beta = -0.13$, $p < .001$) which supported H5(a). Furthermore, group 2 also remains the most likely to have a higher intention to book than group 1, ($\beta = 0.268$, $p = .001$) ($\beta = 0.164$, $p < .01$) respectively and thus confirming H5(b).

Thus, the figure 2 below shows the hypotheses tested and validated for the research model.

Insert figure 2

5. Discussion

With the Fourth Industrial Revolution, the strategies being adopted by enterprises and entrepreneurs to attract customers are increasingly taking into consideration environmental concerns. The appeal for environmental protection is on increase and the perception of the hotel customers about preferring green hotels is still a debatable issue. This study analyzed and tried to expand the existing knowledge of the impact of the green label display, as a sustainable signal, on online booking intent through the perceived green risk and green trust of the eco-conscious tourist. This is part of an exploration of the prospects of resilience in the face of changing trends in the tourism industry in general, and of the behaviour of tourists in a changing environment in particular. All the more so since this sustainability-oriented development has been accentuated by the change in habits that it has induced in particular in the way of travel, travel and consumption of tourist activities and services.

In this sense, this study refers to the intention to book a sustainable hotel online as the forecasts of tourist demand are more towards sustainable and ecological tourism (Chang *et al.*, 2020). On the other hand, this study explored the impact of the label on the willingness of tourists to book this type of hotel, since researchers confirm the importance and effectiveness of the label in strategic tourism policies, particularly to improve communication (Gössling and Buckley, 2016). In our study, this impact is publicized by green confidence and by the perceived green risk of tourists with a high level of environmental awareness. The aim of studying the mediation of these two variables in the eco-conscious tourist's online booking intention process derives from the psychological damage caused by the pandemic, including anxiety (Mann *et al.*, 2020) and fear of travel (Zheng *et al.*, 2021). That being said, tourists should feel reassured and confident about themselves and the environment to travel and in turn, stay in a sustainable hotel. Therefore, the recommendations proposed following this study will help the tourism industry in its path of resilience towards the development and spread of a more sustainable and environmentally friendly tourism.

The findings of our study, also expand the research already conducted in green trust and green labelling; specifically, our study extend the findings of Braimah *et al.* (2022), who found that trust in green labelling significantly influence both perceived value and satisfaction with a green product that in turn, has a positive impact on loyalty. In addition, our results confirm the importance of the signal sent by the site of a hotel to reassure tourists who have a high environmental awareness. This green signal is represented in our study by the display of a green label on the hotel website. Similar to the study conducted by Chi *et al.* (2022) on the certification of a hotel and its positive impact on the actual booking behaviour, our study complements this by underlying the influence of the display of a green label on the intention to

book online. As a result, we conclude that a green label posted on the website of the tourism company does not only affect online booking behaviour but also the intention to do so. However, the intention to book an online hotel has been studied in our case for tourists with high environmental awareness. This behaviour has not been extensively explored in the literature of this type of tourist, which underlines the importance of this research. Whatever Sun *et al.* (2021) studied this intention for example towards a sustainable hotel.

In addition, the moderating impact of the personal characteristic of the tourist (environmental awareness) on the relationship between the green label and the intention to book online has proved significant. This is in line with the results of previous studies that have demonstrated the impact of environmental awareness on sustainable behaviour (Darvishmotevali and Altinay, 2022), but also its moderating role in the tourist's behavioural process. In regard to the moderating impact, the study of Ahmed *et al.* (2021) examined the moderation of environmental consciousness on the relationship between attitude, social norms, perceived behavioural control and purchasing intent. Similarly, the study of Zeng *et al.*, (2019) validated the impact of corporate environmental responsibility on the efficiency of investments with the moderating effect of environmental awareness on this relationship. However, if this moderation of environmental awareness has proved positive in our case, it may be negative for other relationships, notably between attitudes and the intention to consume sustainable products (Skallerud *et al.*, 2021). In addition, the literature's analysis of the use of environmental awareness as a moderator seems to be mostly linked to sustainability, which is also the case with our research as we study the intention of online booking in relation to variables such as green label, perceived green risk and green trust.

In referring to these concepts, we highlight in addition to the label's indirect impact on online booking intent, its direct impact on perceived green risk. Thus, this study shows that the more the environmentally conscious tourist is sensitive to the label displayed on the tourist company's site, the more his perception of the green risk decreases. This is in line with research by Bansal-Travers *et al.* (2011) that demonstrated the label's significant impact on perceived green risk. In addition, our research contributes to the development of the types of perceived green risks impacted by the label in addition to financial, physical and social risks (Beneke *et al.*, 2012).

Furthermore, the negative impact of perceived green risk on green confidence was validated by this study. This finding further supports the results of Chen and Chang (2013) highlighting the negative impact of "greenwash" on green confidence. According to the same source, "greenwash" means "the act of misleading consumers about a company's environmental practices or the environmental benefits of a product or service." The relationship between the latter and the perceived green risk has also been verified by the literature (Tarabieh, 2021). The green label displayed on the hotel website thus reduces the risk associated with the non-sustainability of the hotel and ultimately increases confidence in the environmental practices of the tourist entity. This will allow tourists with high environmental awareness to avoid dealing with non-serious sustainable practices such as "greenwash".

As for the significant relationship between trust and online booking intent, it follows the reasoning of previous research that highlighted the positive effect of trust on online shopping

(Pappas, 2016), on online booking (Lim, *et al.*, 2006) and on online booking intent (Sparks and Browning, 2011). Previous research has validated the impact of green trust on consumer intentions towards word of mouth (Wang *et al.*, 2018), and online shopping in particular (Chen and Chang, 2012). Overall, green trust appears to have a dominant role which supports several prior studies (Chen and Tung, 2014; Kim and Han, 2010) underlying that tourists' assessment of staying at a green hotel is a dominant facet in developing their intentions toward choosing green accommodations in future. Thus, this research contributes to the development of literature related to the sustainability of the concepts mobilized, namely trust and perceived risk.

6. Implications

Theoretical implications

This study contributes to the literature by providing useful insights into green labelling, green trust, and green perceived risk. Online booking intention has been extensively studied in the literature, but few studies have focused on the intention related to sustainable hotel booking by the eco-conscious tourists (Shin, *et al.*, 2021). This study addresses this theoretical gap by investigating the impact of the green label on online sustainable hotel booking through both the tourists' green trust and green perceived risk. Notably, including these variables into signal theory can improve its predictive power in tourism industry, thus widening its scope. Our study contributes to Arrow's (1973) signal theory applied to the eco-conscious tourists' intention to book a sustainable hotel, and on the other hand to the sustainable tourism's context. The works of Arrow (1973) and Spence (1973) mainly analyze "*the rationality of individual behaviors seeking to use signaling processes*" (Gamel, 2000). However, our study allows us to explore the impact of this signal on the intention to book online, notably through the mediating link of trust and green perceived risk of the individual.

This study indicates the impact of the sustainable signal on green trust, green perceived risk, and online booking intention. In other words, the major contribution of our study lies in the mediating relationship of green trust and green perceived risk. The green label cannot have a direct effect on online hotel booking intention but acts indirectly through green trust and green perceived risk. Pappas (2016) has highlighted the impact of perceived risk and trust on online purchase. Our study confirms this relationship in a sustainable (green label) context. Furthermore, Sparks and Browning (2011) confirm the impact of perceived trust on the intention to book a hotel online. Our results, support the contributions of Pappas (2016) stating that perceived risk and trust are important for the intention to book a sustainable hotel online. Moreover, our results, confirm the research that ranked the green label as a determinant of online purchase intention (Pelet *et al.*, 2020). This result is in line with the study of Li *et al.*, (2021) which underlines the shift in consumption patterns towards more sustainability.

The study further contributes to the literature by highlighting the combination between the characteristics related to both the hotel and the tourists in the signal theory framework. The former represents the sustainable signal emitted by the hotel through the display of the green label on the reservation site. The latter is represented mainly by the two constructs: perceived risk and trust. These two constructs, adapted to the context of sustainability, are paramount in an online shopping context (Pappas, 2016). Our results combine, therefore, these two types of characteristics to study online hotel booking intention for the eco-conscious tourists. Indeed, our

results show that in order to book their sustainable hotel online, the eco-conscious tourists refer to the characteristics of the hotel (green label) which act on their cognitive state (decrease their green perceived risk and increase their green trust). This relationship is moderated by the tourists' environmental awareness.

Managerial implications

The practical implications of this study offer several benefits to tourism and hospitality practitioners and policymakers. The major managerial contribution of this study consists in its contribution to the resilience of the tourism sector through an understanding of the new behavioural trends of tourists. This understanding has become crucial following the emergence of new tourist niches, especially those called "eco-conscious". Consequently, understanding the specificities of the behaviour of this type of tourist will promote the development of sustainable tourism recognised by researchers as an alternative of resilience for this sector. In addition, to stimulate the intention of booking a sustainable hotel online for the eco-conscious tourists, we can recommend that hotels integrate and/or highlight their sustainability in their communication. This could be done by displaying the green label on the booking site, or by adding this certification on the hotel's offers. In this way, the eco-conscious tourists who are more sensitive to this signal will have a positive online booking behavior.

Given the important role played by tourists' environmental awareness, it is vital that enterprises are adopting strategies that can boost the environmental behaviour of people. As stated by Lin *et al.* (2022) marketers can develop programmes and use several information to enhance consumers' self-identity, prior to the consumer visit of the hotel sites. Similarly, as Yeh *et al.* argue, social entrepreneurship can involve the education of people and the creation of social awareness of the value of greening. Enhanced environmental awareness could increase the acceptance of green services while favour socially and environmentally responsible enterprises. Importantly, entrepreneurs who offer green services can expand their area of social responsibility and gain more potential customers by supporting environmental awareness and education. Furthermore, as our results underline, the intention to book online is explained by trust and perceived risk which supports the literature on this topic (San-Martín *et al.*, 2020). These two variables have a preponderant influence on the tourists' online booking intention. Our study detected the impact of sustainable criteria on this behavior (Zheng *et al.*, 2020). We also mobilized new variants of trust and perceived risk, including green trust and green perceived risk. Our results show that both factors are important for positive sustainable hotel booking intention. Zafar, *et al.* (2021) argue that trust in both social media and perceived environmental effectiveness is essential for online booking intention.

Based on our results, the eco-conscious tourists need reassurance to book their hotel online. We advocate that tourism entities implement approaches to reassure these tourists about the sustainability of the hotel. For example, hotels could highlight the sustainable practices they adopt to allow tourists to trust their sustainability. This would decrease the green perceived risk and thus encourage them to have a positive intention to book the hotel online. Another approach that could be implemented in parallel is to set up a dedicated service for information about the hotel's sustainability. This could be online, by phone or both. These recommendations will

increase the tourist's trust in the hotel's sustainability and may positively impact their online booking intention.

To ensure the label's effectiveness in reducing perceived risk and increasing confidence, we recommend that tourism entities complete online questionnaires at the end of each booking. This will make it possible, among other things, to detect whether the tourist has referred to the label before booking. It could also help sustainable businesses to detect the accommodation services tourists attach to the green label (type of accommodation, type of rooms, etc.). Tourism companies, to reassure the eco-conscious tourist, could also propose activities involving him in the sustainability of the entity such as planting trees, sorting waste, etc.

Thus, these recommendations aim to adapt the offer, including the communication and marketing aspect linked to the display of the hotel's green label, to tourists' expectations regarding their intention to book a sustainable hotel. Moreover, these results showing the impact of trust and risk associated with the label on the behaviour of the tourist highlight an important recommendation. Indeed, entities, destinations and tourism policies should propose a tourism route whose main characteristic of the value chain is sustainability. Sustainable and labelled products/services could also be offered to tourists to influence their behaviour not only before the trip (booking intention), but also during and after the trip. This specific adaptation to sustainability expectations is necessary to ensure the organisational resilience of the industry. The latter refers to the prediction of future behaviours in order to adapt to them. This adaptation leading to the resistance of the sector requires an understanding of behaviors such as the intention of online booking being the subject of this research work.

Finally, based on our empirical findings, a tremendous change in consumers' behaviour regarding green behaviours is noted, which highlights the importance for enterprises of implementing green business strategies, such as the adoption of eco-labels. Notably, the adoption of a green label gives enterprises the opportunity to gain competitive benefits that can support them in receiving an optimal position against their competitors and even assist them in their internationalization process. Following green practices and adopting a green label helps enterprises to build valuable connections with customers that enhances an enterprise's positioning among customers in home and foreign markets. At the same time, it can positively affect a firm's networking capabilities, by establishing new networks. In turn, new networks can enhance an enterprise's overall operation with knowledge acquisition and accelerate its adoption in the international environment (Rezaei *et al.*, 2023). Thus, as our results have indicated, given how when booking a sustainable hotel online, customers may be sensitive to the exposure of a green label and how adopting a green label can assist in a firm's internationalization process, entrepreneurs should acknowledge that environmental sustainability should be considered as a pivotal part of their vision and mission. Importantly, while SMEs can survive better in the highly competitive global environment by following green practices, managers should consider how green trust and green perceived risk can affect customer behaviour. However, as internationalization could be an intricate and high-risk process that enterprises are likely to fail (Jafari- Sadeghi *et al.*, 2023), managers should also consider the enterprise's environmental sustainability readiness.

7. Limitations and future research directions

There are limitations related to our study that can direct future researchers' attempt to identify the intentions of eco-conscious tourists. The first limitation is related to the sample employed in this study. Given that most of the participants were residents of France, the results of our study may not be generalized to the entire population. Future research could take into consideration the particularities of our study's context and replicate the findings in similar settings to achieve generalizability and get the reflections of tourists' actual behavior. Secondly, a range of other factors can affect the eco-conscious tourists' intentions to book online a hotel with green label, such as their attitude, social media influence, tourists' satisfaction, etc. Indeed, other variables and/or signals could be adopted to study online booking intention. Following Shin and Kang's (2020) study, we propose that health risk and its importance in the tourism industry could be considered in future studies. In this regard, examining the effect of this health signal on the eco-conscious tourists' online hotel booking can help managers develop better strategies to achieve optimal performance. Thirdly, our study only addressed the moderating variable of green trust and perceived risk; hence future researchers should take into account other mediating and/or moderating variables to measure the related issues. Interestingly, future researchers can examine negative variables instead of only positive ones such as mistrust of green services to offer a more balanced view. Fourth, another future research avenue is to study the impact of the sustainable signal on booking intention on other channels. The effects might be more or less significant if the eco-conscious tourists use other booking channels than the Internet (telephone, agency, etc.). Fifth, this study utilized data collected until December 2022. Taking into consideration this time limitation, future studies might compare to what extent the behavior of eco-conscious tourists change over the years and under different circumstances. Finally, another rather unexplored area that is ripe for future research is the relationship between the internationalization process of an enterprise and the sustainable approach of adopting a green strategy such as an eco-label and how strong this interlinkage is. Thus, future studies could empirically test the best sustainable approach that enterprises could adopt for positioning and expanding their operations in new markets.

8. Conclusion

To continue to strengthen the new business models and for the enterprises to be successful, while contributing to the achievement of sustainable development goals, the tourism industry must increase its environmental sustainability. One approach is to enhance customers' environmental awareness. As our study has indicated the higher the environmental awareness of the tourists is, the more significant the impact of the green label on the intention to book a sustainable hotel online will be. This study found also that green trust and perceived risk of eco-conscious tourists seems to be promising variables that mediate the relationship between the green label of a hotel and online hotel booking intentions. This research also provides several directions to take the field forward. Collectively, we hope that our study will advance the next generation of researchers, who will provide meaningful insights on the multidisciplinary interplay between entrepreneurship, green practices, and new green business models.

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