Rural tourism accommodation performance in times of COVID-19 pandemic

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ABSTRACT Two years after the COVID-19 pandemic, its effects on rural tourism remain understudied. This paper aims to study the performance of rural accommodation businesses by assessing their environmental and health attitudes. Data on environmental and health measures and business performance perceptions were collected through a questionnaire completed by 1,794 managers, the largest dataset to date for rural tourism. A PLS-SEM model and Importance-Performance Analysis (IPMA) were run to assess both dimensions towards these businesses' resilience. The main findings were that (1) environmental dimensions were relegated by COVID-19 ones affecting resilience and (2) the fulfilment of hygiene protocols and measures by guests and businesses were crucial in business resilience. The IPMA also allows informed decision-making by identifying relative importance and performance, supporting the PLS-SEM conclusions. In conclusion, the recent situation might have benefited rural tourism businesses thanks to their resilience and might be a chance to tackle rural tourism seasonality.

KEY WORDS accommodation – COVID-19 – environmental behaviour – hospitality – resilience – rural tourism

SÁNCHEZ-CUBO, F., LASSO-DELA-VEGA, E., MONDÉJAR-JIMÉNEZ, J., GARCÍA-POZO, A. (2023): Rural tourism accommodation performance in times of COVID-19 pandemic. Geografie, 128, 3, 251–270. https://doi.org/10.37040/geografie.2023.010
Received August 2022, accepted March 2023.

Introduction

Since the COVID-19 outbreak back in March 2020, much has been written about how it would have – or effectively has – affected the tourism industry. Many authors have delved into the issue, from theoretical pieces of work at the beginning of the pandemic (Rivera 2020; Sigala 2020; Karatepe, Saydam, Okumus 2021) to very complex studies which aimed to predict the possible outcomes of such a vicissitude (Rivera, Kizildag, Croes 2021; Utkarsh, Sigala 2021; O'Regan et al. 2022). From these papers, a shared prediction arose: the future of tourism will shift to less crowded hospitality facilities and leisure activities (O'Regan et al. 2022). This assertation led to an overwhelming interest in rural tourism because of those characteristics, which are favourable for pandemic and post-pandemic tourism. Indeed, the concept of rural tourism, as stated by the UNWTO (2022), includes "low population density" as a requirement. For the Spanish case, rural tourism is crucial as a supportive industry of the countryside, but it still accounts for a small share of the total tourism figures: 2.21% in 2021, despite a rise from 1.80% in 2019, when it reached peak of 4,423,391 rural tourists (INE, 2022a, 2022b, 2022c). Rural tourism accommodation data before 2018 are not available. These figures involve that while rural tourism increased its share, the rest of the tourism industry lost their corresponding part, which indirectly hindered tourism recovery in urban areas.

Nevertheless, two years have gone by, and evidence supporting the prior statement is still scarce, together with a lack of scientific literature regarding further dimensions of rural tourism affected by the COVID-19 crisis. Consequently, there is a considerable gap in the extant literature that should be rigorously addressed in the short term, apart from finding increments in the figures of rural tourism (Castanho et al. 2020; Marques, Guedes, Bento 2021; Popescu 2021; Dot Jutgla et al. 2022; Vaishar, Šťastná 2022). Thus, this piece of work aims to shed some light on it by providing a comprehensive study on the environmental and business performance of rural housing given the COVID-19 measures and the resulting overall impact on resilience, understood in the business context as an ability to react to, and recover from, an acute shock or interruption (Herbane 2018). This approach to business resilience fits within the uncertainty that COVID-19 pandemic brought to firms (Sharma et al. 2020), which undoubtedly entailed a shock from which they had to react and recover. These reaction and recovery involve the absorption of the first effects of the shock, coping with them – in the short term – and finally adapting the business to the new context – thinking in the long term (Neise, Verfürth, Franz 2021). That requires the businesses to be agile to handle changes (Hadjielias, Christofi, Tarba 2022) since the COVID-19 pandemic drastically and rapidly changed the tourism industry, adding many new protocols and habits.

Hence considering the above, much of the pre-pandemic literature now lacks relevance but provide context for how the industry has behaved before the outbreak. Thus, a review of the previous and latest literature is provided onwards to support the design of the questionnaire, model and discussion of the results. Starting by the pre–pandemic context, the scientific literature on rural tourism revolved around two main axes: being a tool for avoiding depopulation (Fernández-Quero, Navarro-Valverde 2020) and the sustainability of the hospitality infrastructures (Sánchez-Ollero, García-Pozo, Marchante-Mera 2014; Campón-Cerro, Hernández-Mogollón, Alves 2017; Moise, Gil-Saura 2020).

While the first is still applicable (Oleksenko et al. 2021; Strzelecka, Prince, Boley 2021), the latter might have been relegated favouring COVID-19 protocols application (Shrestha, Decosta 2021), being both implemented simultaneously, as an addition to the existing related quality measures (Iacob, Toma 2021; Lulcheva 2021). However, despite these protocols being mandatory, rural establishments have less difficulties than their urban counterparts in applying them because of the inherent social distance in rural activities (Robina-Ramírez, Medina-Merodio, Estriegana 2022). Nevertheless, both rural and urban accommodation businesses' managers agree on their implementation as they benefit the business (Robina-Ramírez, Medina-Merodio, Estriegana 2022) and even consider them as a motor for resilience (Burhan et al. 2021), but also acknowledge the role of the guests in fulfilling them. Regarding this, some concerns arise since two types of COVID guests exist (Scuttari et al. 2021): those deeply concerned about the hygiene measures and those who perceive a low risk in travelling (Zhu, Deng 2020; Jang et al. 2021), which might skip the protocols (Mirakzadeh et al. 2021; Scuttari et al. 2021).

Turning to the sustainability issue, we adopt the definition provided by the United Nations (2022), which stated it as "meeting the needs of the present without compromising the ability of future generations to meet their own needs". This approach may including both environmental and economic dimensions, finding an equilibrium between benefits and costs at all levels in which the tourism activity is beneficial for every stakeholder (Butowski, Makowska-Iskierka, Pokojski 2018). This topic was highly relevant until the beginning of 2020 (Moise, Gil-Saura 2020), paying great attention to the effects of 'green' certifications (Sánchez-Ollero, Garcia-Pozo, Mondejar-Jimenez 2014), which are now still relevant along with other topics. In this sense, tourists still associate rural tourism with a more sustainable type of tourism (Oleksenko et al. 2021) and think of it as low density, calm and even healthier (Golubchikov 2021; Quendler, Magnini, Driouech 2021). Thus, despite some rural housing closing (Sari et al. 2022), a shift in rural areas from agricultural or non–agricultural activities to tourism was identified (Mugauina et al. 2020; Roman, Grudzien 2021; Sari et al. 2022; Zibert et al. 2022), providing tourism services to tourists in these areas. That change in the economic activities

in a given territory seems to have been borne because of a previous commitment to sustainability, which in the long-term benefits resiliency (Banica et al. 2020).

All the issues affecting rural accommodation businesses before and during COVID-19 outbreak presented above, together with the concept of resilience (Polukhina et al. 2021), lead us to question the issue of business survival or resilience of rural accommodations during the pandemic era, and whether it contributed to a relative success of the industry given its comparatively rapid recovery (Moreno-Luna et al. 2021). Considering these premises, some authors have addressed the issue by interviewing or surveying managers about what they have done, which included, among other actions, innovative marketing practices (Burhan et al. 2021, Rahmanto 2021), financial management strategies (Majumdar 2021) or internal innovation (Hemmington, Neill 2022). Besides, some authors attempted the quantitative assessments of resilience through the creation of a comparative resilience score (Ntounis et al. 2022), or CSR, certificates and protocols (Marco-Lajara et al. 2021). All these authors agree on the resilience of rural hospitality to the COVID-19 pandemic, but others found they may not be resilient to climate change (Gabriel-Campos et al. 2021).

Complementing these studies, other academics found additional factors that may have influenced their resilience. For instance, those establishments run by larger organisations rather than family businesses were found more resilient (Santiago et al. 2021) since their structure allowed them to face better challenges as the pandemic. Other authors found that their placement near to protected areas might also influence on the focus on sustainability (Pérez-Calderón, Miguel-Barrado, Sánchez-Cubo 2022). In this sense, governmental subsidies may help improve small and medium enterprises' resilience (Castanho et al. 2021; Burhan et al. 2021; Santiago et al. 2021; Soliku et al. 2021; Hemmington, Neill 2022).

Thus, this paper aims to provide a comprehensive study of the resilience of rural accommodation in Spain by analysing their environmental and business performance, given the COVID-19 measures, to assess their resulting overall impact on it. For that purpose, after this brief introduction, the Materials and methods section provides a description of the questionnaire and the methodology used, followed by a thorough explanation of the results, which are eventually discussed.

Materials and methods

The purpose of this study is quite ambitious since many factors are involved, and many hypotheses are required. Therefore, quality data is needed. At the beginning of 2021, the authors designed a questionnaire based on previous works for those concepts of sustainability already relevant before the pandemic, which included water and energy consumption, waste management and environmental behaviour

(Ferrari, Mondéjar-Jiménez, Vargas-Vargas 2010; Villanueva-Álvaro, Mondéjar-Jiménez, Sáez-Martínez 2017; Sánchez-Ollero, Garcia-Pozo, Mondejar-Jimenez 2021; Table 1 shows the correlation between the items and their corresponding question in the questionnaire). As it can be seen, these works, and therefore the sustainability module included in this study, refer to the environmental dimension of the concept – represented by the constructs Energy, Environmental Behaviour and Waste in the model, and their corresponding indicators. The economic aspects, considering the undeniable influence of COVID-19 on business performance, were considered in the COVID-19 module – represented by the constructs Business Peformance, COVID-19 Prevention and COVID-19 guests, and their corresponding indicators. Besides, the rest of the items aimed to measure COVID-19 aspects were designed according to the latest information provided by governments to tackle the spread of the virus and the degree of fulfilment of them by managers, employees and guests. All questions are Likert-scaled from 1 to 5–1 'totally disagree' and 5 'totally agree', and assigned to a module in the questionnaire: one made up of sustainability questions – the ones grouped in Energy, Environmental Behaviour and Waste constructs – and other made up of COVID-19 related questions – the ones grouped in Business Performance, COVID-19 Prevention and COVID-19 guests constructs.

The resulting questionnaire was delivered to 2,776 rural accommodation managers in Spain, by phone or online, from January to December 2021. By the end of the year, a total of 1,794 complete answers, representative of all Spanish regions, were retrieved. These include all types of rural housing according to Spanish regulations, from rural hotels to rural housing and tourist apartments in the countryside. In Spain, the competencies on tourism are delegated to the regions, so each one has different legislation, and there is no unified record of rural accommodation facilities. The authors did their best effort estimating the total and found 31,837 establishments, of which 25,032 were rural houses and 6,092 corresponded to rural hotels. The data was manually gathered from each region's official tourism website. Thus, the sample represents 5.63% of the total. Given the standard requirements for the sample size, a minimum sample size of 653 individuals would be necessary at a 99% confidence level and a 5% error. Consequently, the given sample is large and sound enough to perform significant analyses.

Lastly, the choice of Spain lies in the importance of Tourism on its GPD and its relevance as a tourist market (UNWTO 2020). To the best of the authors' knowledge, this is the largest sample for rural tourism to date.

The methodology chosen for analysing the obtained data was the Partial Least Squares – Structural Equation Modelling (PLS-SEM) because of its favourable properties for studying latent variables supported by the theory (Hair et al., 2019). Hence, this paper proposes a model including the aforementioned dimensions, which lead to the following hypotheses. Firstly, hypotheses H1 and H2 address

Table 1 – Latent variables and indicators

Latent Factor	Item	Question
Energy	E1	It is important to introduce water-saving systems
	E2	It is important to control the electric power consumption in the economic balance of the business
	E3	It is necessary to install energy-saving measures
	E4	The use of alternative energy sources is necessary for the business
Environmental Behaviour (EnvBehav)	EB1	The implementation of an environmental management system is important in my business
	EB2	The use of ecological criteria (in investments, purchases, etcetera) is important in my business
	EB3	It is important to train and motivate staff in environmental objectives
	EB4	It is necessary to provide information to customers and/or suppliers on sustainable environmental behaviour
	EB5	Your customers have a high level of environmental proactivity
	EB6	The environment respect attracts new customers
Waste	W1	It is necessary to install bins for waste recycling and/or toxic waste
	W2	It is important for my business to have waste recycling bins (paper, plastic, glass...)
	W3	It is important for my business to separate toxic waste (toner, fluorescent tubes, etcetera) and deliver them to an authorised waste manager
	W4	It is important for my business to dispose of used cooking oil at a clean point or at an authorised waste manager
Resilience	R1	I think that hygienic-sanitary measures are necessary for the prevention of COVID-19 infection.
	R2	I think my employees carry out adequate self-protection against COVID-19.
	R3	I think that the health and hygiene measures introduced have had an impact on the occupancy rate of my establishment.
	R4	I think that the health and hygiene measures introduced have had an impact on the economic performance of my establishment.
	R5	I think that the "COVID-FREE" certification would be a boost for the maintenance of my business.
Business Performance (BusPerform)	BP1	My rural accommodation has experienced an upturn in bookings during July and August.
	BP2	Rural accommodation has a competitive advantage over other tourism segments in the recovery of the tourism sector.
	BP3	Assessment of my business activity in 2020.
	BP4	From 1 to 5, my prospects for the year 2021 for the activity of my establishment.
COVID-19 Prevention (CovPrevent)	CP1	I have introduced hygienic-sanitary measures for the prevention of COVID-19 infection in the rural accommodation establishment.
	CP2	I have developed a plan for the dissemination of the hygiene and health measures implemented in my establishment.
	CP3	I have carried out training actions among my employees for the adoption of hygienic-sanitary measures against COVID-19.
	CP4	The implementation of the hygienic-sanitary measures has meant a significant economic cost for my establishment.
COVID-19 Guests (CovidGuests)	CG1	My clients value positively the hygienic-sanitary measures implemented against COVID-19.
	CG2	My clients comply with the hygiene and sanitary measures implemented in relation to COVID-19
	CG3	My clients are concerned about knowing the establishment's safety protocols.

Source: authors

non-pandemic variables, which had already been contrasted in the previous literature (Ferrari, Mondéjar-Jiménez, Vargas-Vargas 2010; Villanueva-Álvaro, Mondéjar-Jiménez, Sáez-Martínez 2017; Sánchez-Ollero, Garcia-Pozo, Mondejar-Jimenez 2021).

(H1) Energy-saving measures positively influence Environmental Behaviour.

(H2) Waste management measures positively influence Environmental Behaviour.

These are included in the model to assess whether they are still relevant in the current situation and if they affect, through Environmental Behaviour, rural hospitality businesses' resilience. In this sense, this study includes H3, which is similarly reflected in Marco-Lajara et al. (2021).

(H3) Environmental Behaviour positively influences rural accommodation Resilience to the COVID-19 pandemic.

Then, Business Performance – measured as shown in Table 1 – has not been addressed in the – pandemic – literature except from evolution figures of rural tourism (Castanho et al. 2020; Marques, Guedes, Bento 2021; Popescu 2021; Dot Jutgla, Romagosa Casals, Noguera Noguera 2022; Vaishar, Šťastná 2022).

(H4) A proper Business Performance positively influences Resilience.

Lastly, there is literature regarding COVID-19 prevention on the side of the establishments – COVID Prevention – (Burhan et al. 2021, Mirakzadeh et al. 2021; Scuttari et al. 2021; Robina-Ramírez, Medina-Merodio, Estriegana 2022) and guests – COVID Guests – (Zhu, Deng 2020; Jang et al. 2021; Mirakzadeh et al. 2021; Scuttari et al. 2021). Their relations to Resilience are included in the proposed model.

(H5) COVID-19 prevention measures positively influence rural accommodation Resilience to the COVID-19 pandemic.

(H6) Guests' awareness of hygiene protocols positively influences rural accommodation Resilience to the COVID-19 pandemic.

Besides, to complement the model results, this study also provides an Importance-Performance Analysis (IPMA) at the construct level, which allows informed decision-making (Hair et al. 2018; Sánchez-Cubo et al. 2021).

Results and discussion

From the six hypotheses stated above, the model shown in Figure 1 is proposed. The constructs are made up of the indicators displayed in Table 1. Once the model was set, the calculations were run using SmartPLS 3.0 (Ringle, Wende, Becker 2015). The results of the estimations regarding the loadings and direct effects also appear in Figure 1, together with the R^2 values.

Nevertheless, before evaluating the model results, some tests are required. Firstly, the assessment of the measurement model includes the validity and

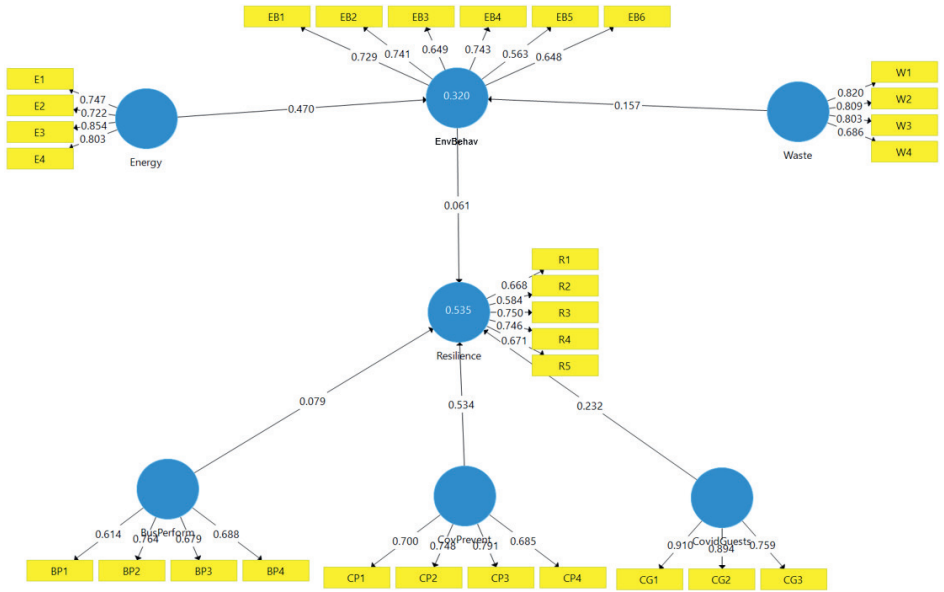

Fig. 1 – Proposed PLS-SEM model. Source: authors.

reliability measures (Table 2). The thresholds considered are the ones stated in Hair et al. (2019). On the one hand, the Average Variance Extracted (AVE) measures how much of the variance of the indicators are captured by the construct. The recommended threshold is 0.5, so all constructs are around it or above, which means they are well designed. On the other hand, Cronbach's Alpha and Composite Reliability measure the same phenomenon: the degree of correlation between indicators of the same constructs. Both share a 0.7 threshold – 0.6 for exploratory studies – but Composite Reliability is increasingly overcoming Cronbach's Alpha use since it is much less biased. However, both present good results, so the constructs are well defined by their indicators. Lastly, the R^2 values are relatively high for SEM models, which show that the model has good explanatory power.

In addition, the discriminant validity is measured through the Heterotrait-Monotrait (HTMT) criterion. It measures if the constructs substantially differ from the rest (Henseler, Ringle, Sarstedt 2015). According to the results contained in Table 3, discriminant validity is demonstrated for the constructs of the proposed model.

Once the measurement model passes the required tests, the structural model can be assessed, which means the hypotheses tests is carried out. Table 4 displays the results of the hypotheses test. As shown, all of them are statistically significant at 99%. Therefore, all hypotheses are confirmed.

Table 2 – Validity and Reliability measures

	AVE	Composite reliability	R_A^2	Cronbach's α
BusPerform	0.474	0.782		0.647
CovPrevent	0.536	0.822		0.710
CovidGuests	0.735	0.892		0.819
Energy	0.613	0.863		0.789
EnvBehav	0.465	0.838	0.319	0.770
Resilience	0.471	0.816	0.533	0.720
Waste	0.611	0.862		0.792

Source: authors

Table 3 – HTMT criterion for discriminant validity

	BusPerform	CovPrevent	CovidGuests	Energy	EnvBehav	Resilience	Waste
BusPerform							
CovPrevent	0.304						
CovidGuests	0.452	0.652					
Energy	0.274	0.390	0.283				
EnvBehav	0.367	0.354	0.373	0.682			
Resilience	0.416	0.926	0.694	0.350	0.378		
Waste	0.177	0.455	0.356	0.597	0.468	0.362	

Source: authors

Table 4 – Hypothesis test for direct effects between latent variables

	Direct effects	Standard errors	t statistics
BusPerform → Resilience	0.079	0.020	3.858***
CovPrevent → Resilience	0.534	0.022	24.475***
CovidGuests → Resilience	0.232	0.025	9.281***
Energy → EnvBehav	0.470	0.025	18.562***
EnvBehav → Resilience	0.061	0.018	3.385***
Waste → EnvBehav	0.157	0.025	6.318***

Source: authors.
Note: ***0.01; **0.05; *0.1

As mentioned in the Materials and methods section, hypotheses H1 and H2 were previously addressed in the literature. The works from Ferrari et al. (2010), Villanueva-Álvaro et al. (2017) and Sánchez-Ollero, Garcia-Pozo, Mondejar-Jimenez (2021) are examples of similar studies on the topic in which energy consumption and waste management appeared in the context of rural housing. The results of the current piece of work support and enlarge their findings. Moreover, the effects of energy-saving and waste management on environmental behaviour are worthy of attention. Firstly, H1 exhibits a strong effect, even larger

than previous studies. Delving into the items of the construct, energy-saving and water-saving ones are identified. For the first ones, apart from the cited references, other authors such as Berry, Ladkin (1997), Roberts, Tribe (2008) and Gorenak, Bobek (2010) also found significant the relationship between energy-saving measures and environmental behaviour. Similarly, water consumption was likewise addressed by Roberts, Tribe (2008) and Gorenak, Bobek (2010), with matching results to the current study.

Straightforward, waste management is of crucial relevance when dealing with environmental behaviour. In this sense, the relationship between both constructs (H2) is widely supported in the pre-pandemic literature, in the management field (Gorenak, Bobek 2010) and specifically in the tourism management one (Berry, Ladkin 1997; Roberts, Tribe 2008). Consequently, both energy and water saving plus adequate waste management strongly influence environmental behaviour, as demonstrated by the intensity of the effects (0.470 and 0.157 respectively) and the high R^2 of the target construct (0.320). Therefore, since the construct is solidly built – and based on previous research (Ferrari et al. 2010; Villanueva-Álvaro, Mondéjar-Jiménez, Sáez-Martínez 2017) – and the environmental behaviour of the tourism enterprise affects guests' perceptions (Peña, Jamilena, Molina 2012), it might affect business resilience in the pandemic and post-pandemic scenario. This point is demonstrated through the statistical significance obtained for the relationship between the environmental behaviour construct and resilience (H3). However, the effect is much smaller than expected (0.061), suggesting that environmental behaviour is not a decisive factor in business resilience in the pandemic context despite its prior importance and relevance.

Regarding COVID-19 constructs, the fourth hypothesis (H4) states that business performance during the pandemic affects resilience. This assertion has only been stated for the hospitality industry by Sobaih et al. (2021). In this work, the mentioned relationship is statistically significant, but the direction of the relation is inverted. The present work proposes a different direction because of the nature of the questions. While their items seem to be quantitative and consider specific economic dimensions, Table 1 shows how the items that form the construct are stated as perception questions on a Likert scale. Yet, the retrieved value for the relationship is relatively low (0.079) but still statistically significant.

Next, previous literature addressed prevention from two points of view. On the one hand, the implementation of protocols (Burhan et al. 2021; Mirakzadeh et al. 2021; Scuttari et al. 2021; Robina-Ramírez, Medina-Merodio, Estriegana 2022) and, on the other hand, the perceived risk by tourists (Zhu, Deng 2020; Jang et al. 2021; Mirakzadeh et al. 2021; Scuttari et al. 2021). Starting by the first approach to prevention, that is, as mentioned, the implementation and fulfilment of COVID-19 protocols, this paper considers COVID-19 prevention from the business side (H5), which include their application through implementing the measures stated in the

questions shown in Table 1, referring to COVID-19 prevention construct. After the estimation, its effect on resilience is the largest in the whole model (0.534). That makes sense since the fulfilment of some of the indicators that comprise the prevention construct are kind of a platitude. Even so, the strength of the relationship is unquestionable, and therefore, the compliance of the hygiene protocols affects the rural hospitality businesses' resilience.

The mentioned second point of view regarding prevention corresponds to the risk perception and hygiene measures fulfilment by guests (H6). Drawing from the premise that less aware guests exist (Zhu, Deng 2020; Jang et al. 2021; Mirakzadeh et al. 2021; Scuttari et al. 2021), coexistence with highly aware guests is unavoidable. These two types of tourists (Scuttari et al. 2021; Torres, Wei, Ridderstaat 2021) are not an exception in rural tourism. The results of the estimation of the model show that its relationship to business resilience is statistically significant, and its strength is noteworthy (0.232). Therefore, together with prevention, protocols and risk perception seem to be the key to resilience in the pandemic and post-pandemic rural tourism. Nonetheless, the commitment of hospitality managers is crucial to making all the aforementioned relationships work (Filimonau, Derqui, Matute 2020). With all the above, the general R^2 is high (0.535), which suggests that the model has good explanatory power.

In addition, an Importance-Performance Analysis (IPMA) at the latent variable level is performed. This analysis plots in a matrix the constructs regarding their relative importance and performance. The horizontal axis represents the importance, which is the total effect – path coefficient – between a given construct and the target one (resilience). The vertical axis represents the performance, which is the average score of a given construct scaled on a range from 0 to 100. Thus, for each construct in the model, their total effect between them and the reference construct – in this case, resilience – and their average score transformed to a 0–100 scale are their coordinates in the matrix. The results are shown in Figure 2. These results allow informed decision-making (Hair et al. 2018) for managers and politicians since the indicators or variables are placed according to their relative importance and performance, and so weaknesses can be identified. In other words, it allows identifying low-performance constructs – and consequently their indicators, which would be in the lower quadrants, while high-performance constructs would be in the upper ones. Similarly, the greater the effect the greater would be the importance. Therefore, the results are interpreted as the construct being in the upper right one the most optimal situation since it has the greatest importance and performance. Conversely, the constructs closest to the left quadrants would require more attention because of their low importance but high performance – if in the upper-left quadrant. This grid does not necessarily need to be evenly divided. Tackling those constructs less important but with a higher performance might help increase resilience outcomes.

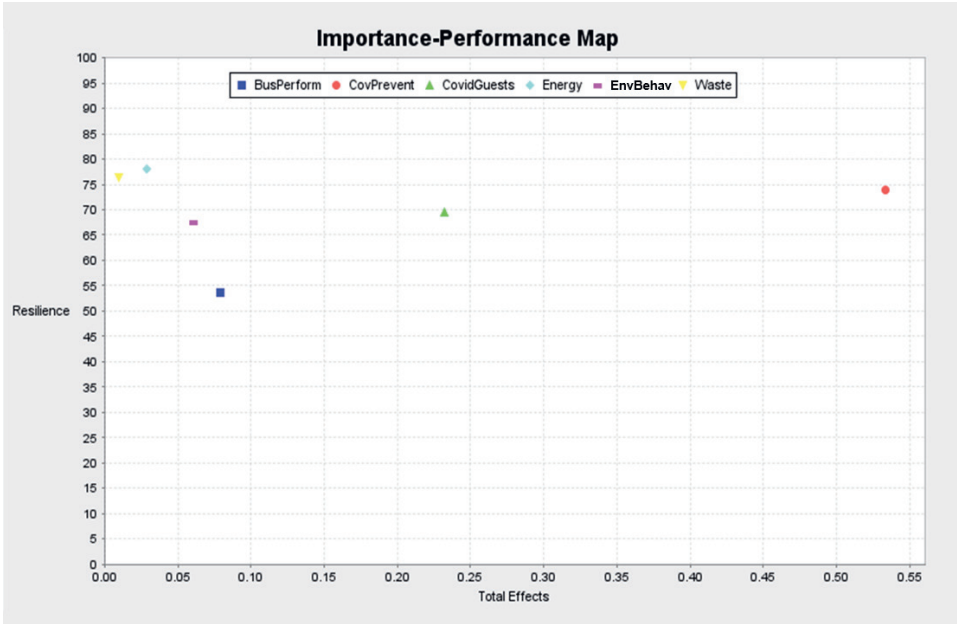

Fig. 2 – IPMA analysis of the model constructs with respect to Resilience. Source: authors.

The results for the proposed model show that COVID prevention and COVID guests are the most 'important' ones, but also they perform very high. That is in line with the PLS-SEM results. Given their position in the chart, no further actions – which may have a noticeable effect – could be undertaken to improve their positive effect on resilience. In other words, the rural accommodation businesses in Spain have adequately applied the required protocols – and even more thorough ones – and their guests have committed to them, which have had a great effect on these businesses' resilience.

Unfortunately, the rest of the latent variables have lower relative importance, since their total effects are very low. But all of them are placed above zero., which suggest that they are statistically significant and that the sign of the effect is positive; that is, they positively affect resilience, so increasing their performance through higher values of their indicator might increase rural accommodation businesses' resilience, since all surpass the threshold of 50% performance, which means they significantly influence resilience. Nevertheless, improvement measures could be undertaken to increase their importance, which is the objective of this analysis. Starting by business performance, considering the items that form the construct, any increase in the figures of guests might positively affect its importance. That may be materialised through a more even distribution of the tourists along the week, de-seasonalising this type of tourism. However, that

seems highly unlikely because of its nature (Martín-Martín et al. 2020), but changes might be observed in the upcoming post-pandemic years.

In this line, environmental behaviour might overcome its secondary role when COVID-19 protocols and restrictions cease or soften. In the meantime, marketing actions as information signs and campaigns combined with COVID-19 measures – i.e., we use non-chemical products for disinfecting our facilities, taking care of your health and the environment – might have a positive effect, but this point should be carefully studied. Finally, since waste management and energy and water-saving constructs precede environmental behaviour, their improvement is linked, and actions could be carried out in the same way as previously mentioned.

Conclusions

This study aims to provide an up-to-date analysis of the rural hospitality businesses' resilience to the COVID-19 pandemic in Spain. A questionnaire was delivered in 2021 to achieve that purpose, which retrieved 1,794 valid responses. The resulting data was analysed through a PLS-SEM model, which combined environmental issues with COVID-19 variables, all of them aiming to define rural accommodation businesses' resilience in the pandemic and post-pandemic context. Besides, an Importance-Performance Analysis was carried out to identify areas of improvement, which provides informed decision-making to the proposal of measures.

The results of both analyses show some interesting data. First, despite the energy and water-saving measures and waste management strongly influencing environmental behaviour, the latter slightly affects resilience. That suggests, in line with the extant literature, that the environmental aspects have been relegated by COVID-19 protocols and measures. As the pandemic eases, the environmental factors might overcome and get the leading role again. The IPMA supports that statement since the performance of these three latent variables is high, but their importance (effect) to resilience is relatively low. The upcoming events suggest that the pandemic measures might dramatically soften – i.e., face masks are not compulsory on exteriors, and their use indoors is close to an end in Europe –, and so customers might seek again for other types of measures, along with the hygiene ones.

Regarding the COVID-19 latent variables, business performance is the least relevant to resilience in the model. As stated previously, it seems that some increase in the figures of guests might benefit it and enlarge its effect on resilience. However, measures for de-seasonalising this type of tourism are needed since their available rooms are limited, and they are fully booked on weekends.

Conversely, the remaining variables – which refer to the fulfilment of hygiene protocols by guests and the establishments – strongly influence the business

resilience during the pandemic. Continuing fulfilling these measures shall keep these positive effects on resilience, as well as the high importance and performance. Combining these COVID-19 measures with environmental behaviour dissemination through marketing campaigns and signs in the establishment – i.e., we use non-chemical products for disinfecting our facilities, taking care of your health and the environment – might have a positive effect. The effectiveness and appropriateness of it in the upcoming months needs to be tracked and analysed. To the best of the authors' knowledge, it has not been studied yet.

Taking into account all the above, rural accommodation businesses in Spain could be considered resilient in pandemic times. Besides, they promisingly face the post-pandemic scenario. Few improvements could be undertaken regarding their management. Nevertheless, stakeholders should plan and cooperate in helping rural businesses overcome seasonality. Conjoint actions might help attract tourists midweek or fill their facilities with teleworkers who are willing to work from a 'greener' or 'more relaxed' environment than a busy city. Some further actions could improve the chances of deseasonalising rural areas, such as providing good internet connection or attracting incentive travellers through offers.

Thus, this study provides very useful and up-to-date information about rural accommodation businesses' resilience in pandemic times, but also regarding environmental issues. From the results shown in the paper, the involved stakeholders might get valuable information that may help them in making informed decisions for their business or areas of government. Nonetheless, all those actions aimed to improve the performance of those businesses would need further tracking and analysis, which require time and data to be gathered. Therefore, the assessment of the actions that are – and would be – carried out by the stakeholders are a promising line of research in the short and medium-term. Besides, the evaluation and comparison of the environmental dimensions in the three stages – pre-COVID-19, pandemic and post-pandemic times – would be of high interest in case of future, undesirable eventualities.

Lastly, like any study, this paper has some limitations. Despite the sample being the largest one to date and the answers were retrieved evenly from all Spanish regions, some of the respondents' businesses might have closed due to financial issues while this paper was written. Also, despite the authors' best efforts to design a literature-based questionnaire and model, future research might differ from the hypothesis and relations established in this paper. Hence, comparisons and further research would be needed. The authors' willingness is to continue analysing the rural tourism accommodation market, tracking and studying the upcoming events.

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ACKNOWLEDGMENTS

Sánchez-Cubo, F. and Lasso-dela-Vega, E. benefit from a predoctoral contract for training researcher staff within the frame of the Formación de Profesorado Universitario (FPU), Fellowship Programme of the Ministry of Universities of Spain.

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