Article

How to Enhance Sustainability through Technology Usage: An Analysis of Managerial Capabilities and Gender in the Tourism Sector

Olga Broto [ID], Alba Puig-Denia *[ID] and Rafael Lapiedra

Business Management and Marketing Department, Jaume I University, 12071 Castelló de la Plana, Spain; broto@uji.es (O.B.); lapiedra@uji.es (R.L.)
* Correspondence: puiga@uji.es; Tel.: +34-964728557

Abstract: New technologies are enabling not only ever-increasing levels of production efficiency but also socially and environmentally sustainable development. Although sustainability is a multi-disciplinary and multi-sectoral concept, many studies have shown that technology is a significant component. However, both sustainability and the impact of technology use on sustainability ultimately depend on one crucial element: people. Therefore, in this article, as well as analysing the impact of technology use on the sustainability of an organisation, we examine two additional factors that may influence its sustainability: gender and managerial capabilities. Specifically, this paper aims to study the effects of technology on sustainability, focusing on the social dimension of sustainability and on an analysis of how gender and managerial capabilities moderate said relationship. To do so, we carried out a regression analysis on a sample of 195 Spanish hotels with between 3 and 5 stars. The results indicate that managerial capabilities are essential for harnessing technology and that women and men take advantage of its possibilities in different ways.

Keywords: sustainability; technology; gender; managerial capabilities

1. Introduction

Tourism is essential to the world economy for several reasons: its contribution to the gross domestic product (GDP) of many countries (a share of more than 10% in some of the most developed countries); its importance in the rebalancing of the balance of payments; its role in generating millions of direct and indirect jobs, with a high proportion of women (54% compared with 39% in the economy as a whole) and young people employed in the sector; and the number and size of existing tourism businesses, 80% of which are micro-, small-, or medium-sized enterprises [1]. Despite occasional shocks, the sector has undergone continuous expansion over the years, thereby demonstrating its strength. Additionally, although tourism has yet to fully restart after COVID-19, with disparate rules and regulations and uneven vaccination rates continuing to affect travel confidence, the beginnings of a slow recovery are emerging [2]. In the case of Spain, the year 2020 closed with an unprecedented slump in tourism activity. However, tourism continues to be one of the country's most strategic sectors; due both to its volume, accounting for 12.4% of GDP and 12.9% of total employment in 2019 [3], and to its role in rebalancing Spain's external accounts. In addition, it represents the most important economic activity in many regions [4]. For this reason, it will continue to constitute an essential part of the Spanish economy.

Nevertheless, it is also true that the economic growth associated with tourism entails a series of negative impacts that can affect the environmental, cultural, social, and economic spheres [5]. Multiple studies have shown evidence of this (e.g., [6–8]), sparking a growing social and political awareness of the situation (e.g., [9]). In response, various international organisations have developed principles aimed at promoting the sustainability of the sector

(e.g., [10]). From a business perspective, the development of sustainability mechanisms can generate competitive advantages, encourage customer loyalty, and boost companies' operational efficiency [11]. Other experts argue that such mechanisms can also improve business results under certain conditions [12].

Responsible consumption and production—achieved in part by making efficient use of resources and reducing waste generation—form the basis of the sustainability concept, which includes not only environmental but also economic and social aspects. In the past, sustainability was perceived as an outward facing initiative, aimed at bolstering the image of the company. Nowadays, it is part of the entire organisation with crucial internal impacts [13]. For this reason, throughout this article, we focus on the third pillar of sustainability, the social element.

We can understand social sustainability in substantive (ends) and procedural (means) terms. The former refers to people's needs, rights, and wellbeing, while the latter alludes to the means to achieve these ends, such as access to information, empowerment, democratic decision making, and democratic governance. Once again, social sustainability can have an impact both outside and inside the organisation [14]. In this article, we will focus on the internal impact.

In a business context, social sustainability involves a number of aspects, such as job opportunities, health and safety, training and learning, and professional growth. More specifically, community sustainability refers to social interaction among members of a community and a chance to contribute to civic affairs, the presence of formal and informal organisations, a climate of interpersonal trust, a sense of safety and security, and positive recognition [15]. Along with healthcare, education is a crucial element of social sustainability [16]. Ajmal, Khan, Hussain, and Helo [17] suggest that the economic and environmental sustainability of an organisation is driven by key social elements, including fairness and equality, poverty, health, education, delinquency, demography, culture, and employee engagement.

Organisations have multiple resources at their disposal to work towards sustainability. One of them is technology, which has changed the nature of economic, environmental, and social relations worldwide (e.g., [18]). There are multiple examples of this relating to all dimensions of sustainability (e.g., [19–21]). There are also several examples related to different technologies that, a priori, may not be seen as linked to these types of objectives, such as CRM, which can contribute in an equally positive way [22].

However, the influence of technology is not always positive [23], since its impact in any field, including sustainability, depends not only on the sector, time, and place where we use it but also on a series of elements that go far beyond the technology itself. If these elements do not play their proper role, the positive effects of technology can be cancelled out [24–26] or even become negative [27]. People are one of these elements. Business professionals are the ones who must have the appropriate skills [28] and develop the best ideas to put technology to innovative use [29].

This raises the question of who uses technology and how they do it, and how it influences the achievement of sustainability. In order to provide an answer, we have focused our research on two issues: the knowledge and skills of the professionals, and their personal characteristics. In the first case, we refer to managerial capabilities and, in the second, we refer to gender.

2. Literature Review

2.1. The Influence of Managerial Capabilities on the Use of Technology and Sustainability

The literature has defined managerial capabilities in many different ways: reliable processes or replicable routines [30], specific and identifiable processes [31], learned and stable patterns of collective activities [32], or capabilities to perform given tasks acceptably and repetitively [33,34].

Managerial capabilities are central to a company's management and performance and its ability to develop and use of the rest of its resources and capabilities [35–37]. In this

respect, some authors have reported that superior managerial capabilities can enhance digital transformation, among other strategic changes [38,39]. Therefore, managerial capabilities influence how companies develop, deploy, and use technology [40]. Without management capabilities, a firm cannot fully harness the potential of technology [41].

On the other hand, corporate sustainability refers to the transformation of business models. It is not only oriented towards achieving sustainable economic goals but also fostering environmental and social awareness [42,43]. Therefore, managerial capabilities are an essential factor when promoting sustainability, both directly and when incorporating other relevant components to achieve it, such as technology. This is due to the dynamic, complex nature of the sustainability process, which is characterised by continual, unpredictable changes [44] in technologies, beliefs, and institutional approaches [45].

Some studies show a direct and positive relationship between managers' individual capabilities and the three dimensions of sustainability. They highlight that these professionals are more sensitive to sustainability and more committed to implementing measures to achieve it, in companies of different types and sizes (e.g., [42,46]).

2.2. The Influence of Gender on the Use of Technology and Sustainability

Gender is more complex and substantial than other demographic variables, such as age, educational level, career, or seniority, since its effects have a socio-cognitive basis [47]. It has been found that a diverse senior management team can endow a company with many benefits, and gender diversity is a relevant measure of the management team's diversity [48]. Hence, we have selected it as a personal characteristic to analyse in this study.

We can consider many factors when analysing gender differences in the use of technology (e.g., [49–52]), all of which show clear contrasts between men and women.

For example, men place more importance on using technology to achieve results than women do [53,54]. However, women attach more importance to the opinion of others when using technology [55,56]. On the other hand, women are more concerned about the effort required to use it [57] and not only perceive themselves as less capable when it comes to technology—and are therefore more dependent on external factors [58]—but also show less satisfaction with its use [59]. The consequence of greater dependence on external factors is that, while we may not observe gender differences at a basic level of use [60], we can find significant gender differences at an advanced level [61]. The fact that women enjoy using technology less may also imply relevant differences that are not initially perceptible, but that may emerge in patterns and frequency of use, and thus in their levels of use later on [62,63]. Furthermore, various studies find that women show higher anxiety towards technology (e.g., [64,65]), insofar as they perceive it as a threat, where they have some control over its consequences [66].

There are also significant differences depending on the gender of the professionals employed in the company when it comes to greater or lesser prominence given to sustainability. Multiple studies highlight the importance of gender and the fact that women are more inclined to make decisions in support of sustainable strategies in the social [67], environmental [68], or general sphere [69,70].

This is because women possess personal traits that predispose them to pursue societal wellbeing [71], while men focus more on individual traits [72,73], promoting hierarchy and competition [74,75]. Indeed, women tend to be more concerned about issues related to environmental damage and personal wellbeing and are more inclined to respect others, and value community engagement, charity, and altruism [76–78]. As a result, they are more committed to stakeholders than shareholders' interests, more oriented towards long-term projects [79], and more transparent and egalitarian [80,81]. Accordingly, they prioritise sustainability, which calls for a long-term vision both about the organisation itself and society as a whole [82].

3. Research Hypotheses

The aim of this research is to analyse the influence of technology use on the sustainability of a tourism organisation, the roles of gender and managerial capabilities by themselves, and their moderating influence on the relationship between the use of technology and sustainability.

To that end, the research focuses on one of the main actors in the sector, hotel establishments. In 2021, hotels in Spain offered more than 1,600,000 bed places, whereas campsites, tourist flats, and rural tourism accommodation provided more than 750,000, 500,000, and 160,000 [83], respectively. Furthermore, the analysis focuses on hotels with between 3 and 5 stars. There are two reasons for this: on the one hand, they are the most professionalised, as they have more qualified staff and compete on the basis of knowledge and innovation [84,85]; on the other hand, they show greater technological investment [86].

Our initial hypotheses raise the question of whether technology has a positive and significant influence on sustainability and whether its effect is increased by the managerial capabilities and female gender of the professionals who use it.

As we have already noted, there are many examples of how technology positively influences sustainability (e.g., [19,20]). In the late 1980s, the sustainability debate primarily focused on ecological issues, and more recently started to include economic perspectives [87]. However, as Eizenberg and Jabareen [88] show, there is a lack of theoretical and empirical studies on the third and commonly overlooked dimension of sustainable development: namely, social sustainability (e.g., [21]). In particular, there are few such studies within the business context, related to the influence of technology on this dimension.

Given this situation, and in line with other studies that analyse the effect of technology on sustainability, our first hypothesis is as follows:

Hypothesis 1 (H1). *Technology has a positive and significant impact on sustainability.*

Even companies that have made substantial investments of resources and efforts in integrating sustainability issues into their business models are finding it ever more difficult to manage the learning and change processes needed to rise to the challenge. It seems essential to have certain management capabilities when using technology to achieve the company's sustainability goals.

According to Mata, Fuerst, and Barney [89], managerial capabilities include management's ability to design, develop, and exploit computer applications that support and enhance other business functions. Competitive advantages, based on technology, are increasingly short-lived [90] and some authors argue that they could disappear if not accompanied by other resources [29], such as an effective organisational structure, a productive culture, and sufficient skills to leverage business needs on technology assets [24].

As a consequence, we put forward a second hypothesis, as follows:

Hypothesis 2 (H2). *Managerial capabilities significantly and positively moderate the relationship between technology use and sustainability.*

Although several studies have explored gender as a relevant demographic characteristic, the evidence regarding its effects on the use of technology is far from conclusive. The fact that the research draws on different theories to explain the imbalance between men and women may partly explain the mixed results [91].

However, multiple studies lend support to the idea that women are more likely to make decisions to support sustainable strategies. Moreover, women show a higher degree of social commitment than men because they are concerned about the wellbeing of employees and society in general [92]. In addition, women are more committed to ethical values [93] and show some socially oriented characteristics, such as caring for others, a readiness to establish interpersonal relationships, and empathy [94].

Hence, given the inconclusive evidence of the influence of gender on technology use compared to its direct impact on sustainability, our third hypothesis is as follows:

Hypothesis 3 (H3). *Being a woman significantly and positively moderates technology in sustainability.*

The literature suggests that the management and leadership styles of men and women are different, as are their social and environmental commitment [95]. We therefore assume that the managerial capabilities of men and women, which affect their social and environmental commitments, also differ, and that their influence is stronger among women [42]. Thus, the influence of managerial capabilities on the use of technology to achieve sustainability goals will be greater in the case of women.

Therefore, we posit the following hypothesis:

Hypothesis 4 (H4). *Being a woman with a high level of managerial capabilities significantly and positively moderates the relationship between technology use and sustainability.*

To complete our analysis, we also examine whether the managerial capabilities and gender of an organisation's workforce directly affect its commitment to sustainability, as this will allow us to draw additional conclusions.

Consistent with the above hypotheses, we posit that:

Hypothesis 5 (H5). *Managerial capabilities positively and significantly affect sustainability.*

Hypothesis 6 (H6). *Being a woman has a positive and significant effect on sustainability.*

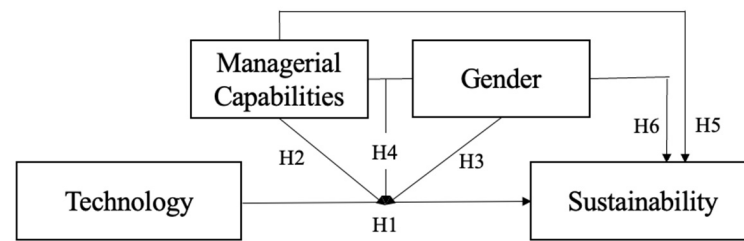A schematic of our research model is shown in Figure 1.

Figure 1. Research model.

4. Study Methods

4.1. Sample and Data Collection

The empirical research is based on a database of Spanish hotels, compiled through a primary study. The field work involved personal interviews conducted via questionnaire and arranged in advance by telephone. The general managers of the hotel were considered the ideal people to answer the questionnaire, or failing that, those responsible for marketing, or for client relationships were approached; in the case of hotel establishments, the latter are usually in charge of reception. Regarding their level of educational attainment, 74% had completed university studies; 7% had a doctorate, postgraduate degree, or equivalent; 16% had completed secondary education; and only 3% had primary education only. There was a fairly even gender balance, with 48% of those interviewed being men and 52% women.

A set of recommended procedures for survey research were used, applying a modified version of Dillman's (1978) total design method [96]. The field work was carried out between January and May 2014.

The final sample consists of 195 hotels with between 3 and 5 stars, which are, a priori, assumed to be more advanced at a strategic and technological level than those with lower star ratings.

4.2. Methodology

To test the proposed model, a hierarchical regression model has been run using the SPSS statistical package. The control variables, the main variables, and the moderator variables are thus introduced in three steps. Before including moderating effects, the variables are mean-centred to reduce multicollinearity [97,98].

The variance inflation factors show a maximum value of 1.343, so there are no multicollinearity problems. The Durbin–Watson statistic yields a value of 1.981, which is between the recommended levels of 1.5 and 2.5, so we can assume that the residuals are

independent. The results are statistically robust, since the analysis of the residuals—and the other graphs and statistics that the program provides—indicate that the basic assumptions for regression analysis are met.

4.3. Measuring Instruments

Dependent variable:

The dependent variable is sustainability, specifically the social dimension, within a business context. This variable was measured with multi-item 7-point Likert-type scales, with 7 differential points reflecting participants' perceptions in relation to the questions posed (1 = "Totally disagree", 2 = "Disagree", 3 = "Somewhat disagree", 4 = "Neutral", 5 = "Somewhat agree", 6 = "Agree", 7 = "Totally agree"). Specifically, it captures interviewees' perceptions of the importance that the company assigns to aspects such as employees' future career possibilities, training, a good work environment, altruistic behaviour, learning, and equality. This scale was made up of nine items and was based on previous studies, such as that by Staniškienė and Stankevičiūtė [99]. The Cronbach's Alpha for this scale is 0.777, exceeding the minimum acceptable value of 0.7.

Independent and moderator variables:

The technology variable was calculated by adding up the total number of different technologies used by the company. Specifically, the interviewees were asked if they used one or more of the following technologies in their hotel: comprehensive management software, reservation management systems, transaction control software, software for reception and reservation, task management software, and their own domain on the internet.

The variable of management capabilities was made up of a total of 7 items, measured, as in the case of the sustainability variable, with a multi-item 7-point Likert-type scale. In this case, the items are related to the interviewee's perception of management's ability to involve employees in the main decisions, take their opinions into account, make them feel involved, facilitate communication, encourage them to take risks, promote creativity, and solicit the contribution of new ideas. This scale draws on previous proposals, such as that of Ali, Sun, and Ali [100], who defined managerial capabilities as the managers' ability to establish a good work environment and a healthy workplace, which motivates and involves employees, and encourages their personal growth. The value of Cronbach's Alpha for this scale is 0.884.

As for the gender variable, it is a dichotomous variable, where 1 refers to the female gender and 0 to the male gender.

Control variables:

In addition to these variables, which correspond to the hypotheses being tested, some control variables were also included; specifically, the size of the company (measured by the number of employees), the age of the company (considering the year of opening), and the age of the manager who answered the questionnaire.

Table 1 lists the main descriptive statistics and the correlations of the study variables.

Table 1. Descriptive statistics and correlations.

	μ	σ2	1	2	3	4	5	6	7
1. Size	51.77	59.237	1						
2. Firm age	1989.47	19.419	−0.128	1					
3. Manager age	37.49	9.446	−0.136	−0.269 **	1				
4. Gender	0.5125	0.50141	−0.121	0.214 **	−0.277 **	1			
5. Technology	4.775	1.37338	0.117	−0.067	0.236 **	−0.096	1		
6. Managerial capabilities	4.649	1.15303	0.057	−0.011	−0.164 *	0.077	−0.088	1	
7. Sustainability	4.9819	0.73406	0.021	0.036	0.019	0.054	0.021	0.642 **	1

** The correlation is significant at the 0.01 level (bilateral); * The correlation is significant at the 0.05 level (bilateral).

5. Results and Discussion

On the one hand, this research analyses the effect of technology use on sustainability (H1), as well as the moderating effect of the variable's managerial capabilities and gender on that relationship, both separately (H2 and H3) and jointly (H4). On the other hand, it examines the direct effects of these variables (managerial capabilities and gender) on sustainability (H5 and H6).

Table 2 presents the results obtained after testing the model using hierarchical regression. We observ an increase in the explanatory power of the model when we includ the explanatory and moderating variables. The whole model, including control, explanatory, and moderating variables, shows an adjusted R^2 of 0.483.

Table 2. Results.

	Model I		Model II		Model III	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
(Constant)	1.141(3)		−1.627(3)		−3.021 (3)	
Size	0.014	0.162	0	0.001	0.025	0.400
Firm age	0.050	0.573	0.082	1.245	0.099	1.558
Manager age	0.029	0.331	0.156 **	2.227	0.178 **	2.621
Gender			0.048	0.736	0.038	0.608
Technology			0.047	0.731	0.048	0.770
Managerial capabilities			0.684 ***	10.939	0.659 ***	10.876
Technology × Managerial capabilities					−0.087	−1.445
Technology × Gender					0.100 *	1.658
Technology × Gender × Managerial capabilities					−0.215 ***	−3.572
F		0.120		20.327 ***		16.546 ***
R^2		0.002		0.459		0.514
Adjusted R^2		−0.018		0.436		0.483
Change in R^2		–		0.457		0.055

(1) Standardized regression coefficients (2) T-values (3) Non-standardized beta * $p < 0.1$; ** $p < 0.05$; *** $p < 0.001$.

In addition to Table 2, we present below the graphical representation of the moderating variables (see Figure 2), which will help us qualify some of the results.

The results do not support Hypothesis 1, which is consistent with the arguments made in this paper and the various authors who point out that the positive effects of technology can disappear (e.g., [24]) or even become negative [27] if the company does not introduce other elements to support it. Furthermore, we do not find significant support for Hypothesis 2. However, when we consider the overall effect of managerial capabilities and gender, the graph in Figure 2 indicates that a high level of managerial capabilities facilitates a positive impact of technology on sustainability performance, for both women and men.

Hypothesis 3 is confirmed. It suggests that being a woman has a positive influence on the ability use of technology to achieve sustainability. However, the graphical representation suggests that as technology use increases, its impact on sustainability decreases for women and increases for men. There may be two reasons for this. Firstly, while we may not observe gender differences at the basic level of technology use [60], we may find them at the advanced level, as a consequence of women's greater dependence on external factors [61]. Secondly, several studies suggest that women enjoy using technology less, which, again, may not lead to differences in the early stages of its use, but may affect patterns and frequency of use and, therefore, its use over time [62].

Similarly, the results support Hypothesis 4, which posits that being a woman with a high level of managerial capabilities significantly and positively moderates the influence of technology use on sustainability. Higher educational attainment or knowledge boosts people's confidence when approaching different innovations [101] and reduces women's difficulties with the use of technology for achieving sustainability. In this case, the impact that managerial capabilities have on women compared to men is particularly relevant. This is consistent with women's relationship with technology, analysed in the previous

hypothesis. In this respect, the graph indicates that women with a high level of managerial capabilities are able to make better use of technology to achieve greater sustainability; however, as the number of technologies increases, their ability to manage these technologies in an effort to achieve sustainability decreases. In the case of men, they are generally better at managing more complex technology but less focused on using it to improve sustainability.
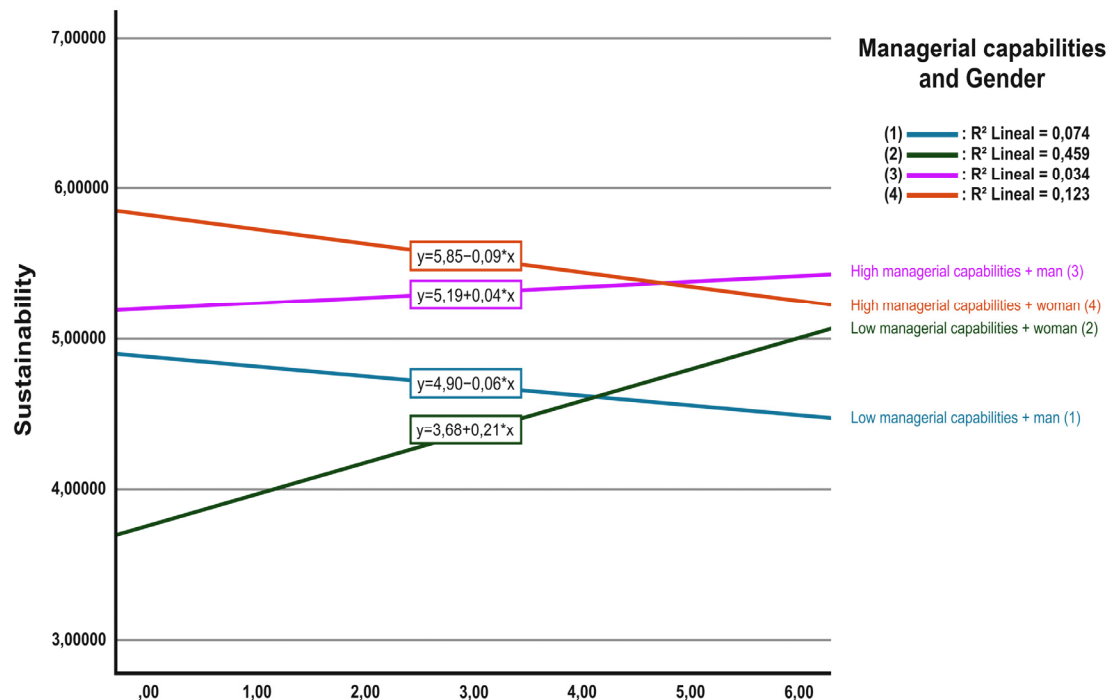

Figure 2. Moderating effects of managerial capabilities and gender.

Concerning the last two hypotheses, the research suggests that professionals with a higher level of managerial capabilities are more committed to sustainability, confirming Hypothesis 5, in line with other studies carried out to date. However, the results do not support Hypothesis 6, i.e., that being a woman positively and significantly affects sustainability. That may be due, firstly, to the fact that the significance of gender can be misleading if it is not related to other factors, such as age [102] or level of education [103], to name a couple. That is, as Cuadrado-Ballesteros, Martínez-Ferrero, and García-Sánchez [104] point out, a woman has more characteristics than her gender. It may also be because the tool used to measure the variables in our model was a survey based on participants' self-assessment, and some authors (e.g., [105]) argue that men and women may use different metrics when making judgements, with women tending to be more modest in their responses.

6. Conclusions, Limitations, and Future Research

We can state that the influence of technology use on sustainability depends on people's characteristics, knowledge, and capabilities. They must have the most appropriate capabilities [28] to develop the best ideas for innovative use of technology [29]. There is evidence of the direct importance of managerial capabilities for sustainability; although, we have not confirmed that these professionals being women has a positive influence. In any case, we have to consider the issues regarding the gender variable and the methodology used, and we should contextualise the results with reference to other studies in the field.

From a business perspective, the implications of all these findings are significant. Hotel establishments are generally, though not uniformly, showing greater commitment to the use of technology and increasing their investments in this area [106], although the data predate the COVID-19 pandemic. However, people remain an unresolved issue. Firstly, companies

should select the most suitable professional profiles, given their impact. Despite this, the average entry grades for tourism-related degrees are among the lowest [4]. In addition, companies should invest in developing the skills of employees in tourism companies. Employees with a low level of educational attainment represent a huge share in the sector and this is highly correlated with the size of the companies [4]. Secondly, companies should incorporate professional profiles that increase diversity, at least in terms of gender. Although such diversity might seem to be a reality already, given the proportion of female employees in the tourism sector (53% in Europe), the truth is that these women tend to occupy the lowest skilled and lowest paid jobs [107], missing out on the opportunities arising from higher level positions.

On the other hand, it is essential to continue working on some of the issues raised in this research. Some of them are related to the limitations due to the methodology, while others are related to the complexity of the elements analysed. Concerning the methodology, in future studies it could be interesting not only to include a larger number of companies but also to go beyond the hotel context and even beyond the Spanish context, as this would allow us to generalise some of the conclusions drawn. In addition, the results have been obtained through a survey; although the rigorous approach adopted minimised some of the risks, this methodology may lead to biases or differences between men and women that would not emerge with another type of methodology. It is essential in future studies to establish a precise definition of some aspects of the variables considered. Thus, when addressing managerial capabilities, it may be interesting to investigate whether these are generic or specific to sustainability, as proposed by [108]. It would also be worth introducing personal characteristics other than gender in order to gain a fuller understanding of how diversity affects sustainability. We can consider many individual features that may increase commitment to sustainability (nationality, ethnicity, religion, education, age, etc.), as argued by [109]. In addition, we could consider how these personal characteristics interact with each other. Moreover, while this research has analysed technology use in general, it would also be interesting to analyse the influence on sustainability that various specific technologies can have in the hands of diverse and highly skilled managerial professionals.

In addition, the focus on social sustainability has some relevant implications. On the one hand, given that the literature has long neglected social sustainability, there is some confusion about its definition, which needs to be addressed [88,110,111], as it could influence the choice of the dimensions that make up this variable. On the other hand, social sustainability can influence sustainability in all its dimensions, given that the empowerment of employees can create a better climate for innovation and the development of internal capabilities to take advantage of other sustainability opportunities [112,113].

References

1. UNWTO. *Panorama del Turismo Internacional*; Edición 2020; WTO: Madrid, Spain, 2021.
2. UNWTO. Las Vacunas y la Reapertura de Fronteras Impulsan la Recuperación del Turismo. Available online: https://www.unwto.org/es/taxonomy/term/347 (accessed on 9 October 2021).
3. INE. *Cuenta Satélite del Turismo de España*; Año 2019; INE: Madrid, Spain, 2020.

4.   Oficina Nacional de Prospectiva y Estrategia del Gobierno de España. *España 2050. Fundamentos y Propuestas Para una Estrategia Nacional de Largo Plazo*; Ministerio de la Presidencia: Madrid, Spain, 2021.

5.   Beni, M.C. Sistema de Turismo—SISTUR: Estudo do Turismo face à moderna Teoria de Sistemas. *Rev. Tur. Análise* **1990**, *1*, 15–34. [CrossRef]

6.   Helgadóttir, G.; Einarsdóttir, A.V.; Burns, G.L.; Gunnarsdóttir, G.Þ.; Matthíasdóttir, J.M. Social sustainability of tourism in Iceland: A qualitative inquiry. *Scand. J. Hosp. Tour.* **2019**, *19*, 404–421. [CrossRef]

7.   Luo, F.; Becken, S.; Zhong, Y. Changing travel patterns in China and 'carbon footprint' implications for a domestic tourist destination. *Tour. Manag.* **2018**, *65*, 1–13. [CrossRef]

8.   Sealey, K.S.; Smith, J. Recycling for small island tourism developments: Food waste composting at Sandals Emerald Bay, Exuma, Bahamas. *Resour. Conserv. Recycl.* **2014**, *92*, 25–37. [CrossRef]

9.   Azcárate, T.; Benayas, J.; Nerilli, G.; Justel, A. *Guía Para un Turismo Sostenible. Retos del Sector Turístico Ante la Agenda 2030*; REDS: Madrid, Spain, 2019.

10.   UNEP; UNWTO. *Making Tourism More Sustainable. A Guide for Policy Makers*; WTO: Madrid, Spain, 2005.

11.   Greening, D.W.; Turban, D.B. Corporate Social Performance as a Competitive Advantage in Attracting a Quality Workforce. *Bus. Soc.* **2000**, *39*, 254–280. [CrossRef]

12.   López-Gamero, M.D.; Molina-Azorín, J.F.; Claver-Cortés, E. The whole relationship between environmental variables and firm performance: Competitive advantage and firm resources as mediator variables. *J. Environ. Manag.* **2009**, *90*, 3110–3121. [CrossRef] [PubMed]

13.   Niñerola, A.; Sánchez-Rebull, M.V.; Hernández-Lara, A.B. Tourism research on sustainability: A bibliometric analysis. *Sustainability* **2019**, *11*, 1377. [CrossRef]

14.   Boström, M. A missing pillar? Challenges in theorizing and practicing social sustainability: Introduction to the special issue. *Sustain. Sci. Pract. Policy* **2012**, *8*, 3–14. [CrossRef]

15.   Santa-Cruz, S.; De Córdova, G.F.; Rivera-Holguin, M.; Vilela, M.; Arana, V.; Palomino, J. Social sustainability dimensions in the seismic risk reduction of public schools: A case study of Lima, Peru. *Sustain. Sci. Pract. Policy* **2016**, *12*, 34–46. [CrossRef]

16.   Cuthill, M. Strengthening the 'social' in sustainable development: Developing a conceptual framework for social sustainability in a rapid urban growth region in Australia. *Sustain. Dev.* **2010**, *18*, 362–373. [CrossRef]

17.   Ajmal, M.M.; Khan, M.; Hussain, M.; Helo, P. Conceptualizing and incorporating social sustainability in the business world. *Int. J. Sustain. Dev. World Ecol.* **2018**, *25*, 327–339. [CrossRef]

18.   Mardikyan, S.; Yıldız, E.; Ordu, M.; Simsek, B. Examining the Global Digital Divide: A Cross-Country Analysis. *Commun. IBIMA* **2015**, *2015*, 1–10. [CrossRef]

19.   Ćurčić, N.V.; Grubor, A.; Muhović, A. Customer Relationship Marketing and Institutional Support Influence on the Women's Companies Sustainability in Serbia. *Sustainability* **2021**, *13*, 10824. [CrossRef]

20.   Khan, R.A.; Al Mesfer, M.K.; Khan, A.R.; Khan, S.; Van Zutphen, A. Green examination: Integration of technology for sustainability. *Environ. Dev. Sustain.* **2017**, *19*, 339–346. [CrossRef]

21.   Ochara, N.M.; Mawela, T. Enabling Social Sustainability of E-Participation through Mobile Technology. *Inf. Technol. Dev.* **2015**, *21*, 205–228. [CrossRef]

22.   Gil-Gomez, H.; Guerola-Navarro, V.; Oltra-Badenes, R.; Lozano-Quilis, J.A. Customer relationship management: Digital transformation and sustainable business model innovation. *Econ. Res.-Ekon. Istraživanja* **2020**, *33*, 2733–2750. [CrossRef]

23.   Ziemba, E. The contribution of ICT adoption to sustainability: Households' perspective. *Inf. Technol. People* **2019**, *32*, 731–753. [CrossRef]

24.   Mithas, S.; Ramasubbu, N.; Sambamurthy, V. How Information Management Capability Influences Firm Performance. *MIS Q.* **2011**, *35*, 237. [CrossRef]

25.   Acemoglu, D.; Aghion, P.; Lelarge, C.; Van Reenen, J.; Zilibotti, F. Technology, Information, and the Decentralization of the Firm. *Q. J. Econ.* **2007**, *122*, 1759–1799. [CrossRef]

26.   Bartel, A.; Ichniowski, C.; Shaw, K. How Does Information Technology Affect Productivity? Plant-Level Comparisons of Product Innovation, Process Improvement, and Worker Skills. *Q. J. Econ.* **2007**, *122*, 1721–1758. [CrossRef]

27.   Brynjolfsson, E. The Productivity Paradox of Information Technology: Review and Assessment. MIT Sloan School of Management: Cambridge, Massachusetts. 1993. Available online: http://ccs.mit.edu/papers/CCSWP130/ccswp130.html (accessed on 2 July 2021).

28.   Bresnahan, T.F.; Brynjolfsson, E.; Hitt, L.M. Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence. *Q. J. Econ.* **2002**, *117*, 339–376. [CrossRef]

29.   Chae, H.-C.; Koh, C.E.; Prybutok, V.R. University of North Texas Information Technology Capability and Firm Performance: Contradictory Findings and Their Possible Causes. *MIS Q.* **2014**, *38*, 305–326. [CrossRef]

30.   Winter, S.G. Understanding dynamic capabilities. *Strat. Manag. J.* **2003**, *24*, 991–995. [CrossRef]

31.   Eisenhardt, K.M.; Martin, J.A. Dynamic Capabilities: What Are They? *Strateg. Manag. J.* **2000**, *21*, 1105–1121. [CrossRef]

32.   Zollo, M.; Winter, S.G. Deliberate Learning and the Evolution of Dynamic Capabilities. *Organ. Sci.* **2002**, *13*, 339–351. [CrossRef]

33.   Helfat, C.E.; Finkelstein, S.; Mitchell, W.; Peteraf, M.; Singh, H.; Teece, D.; Winter, S.G. *Dynamic Capabilities: Understanding Strategic Change in Organizations*; John Wiley & Sons: Hoboken, NJ, USA, 2009.

34.   Teece, D.J.; Pisano, G.; Shuen, A. Dynamic capabilities and strategic management. *Strateg. Manag. J.* **1997**, *18*, 509–533. [CrossRef]

35. Martínez, R.; Charterina, J.; Araujo, A. Un Modelo Causal de Competitividad Empresarial Planteado Desde la VBR: Capacidades Directivas, de Innovación, Marketing y Calidad. *Investig. Eur. Dir. Econ. Empresa* **2010**, *16*, 1135–2523.

36. Carmeli, A.; Tishler, A. The relative importance of the top management team's managerial skills. *Int.J. Manpow.* **2006**, *27*, 9–36. [CrossRef]

37. Mahoney, J.T. The Management of Resources and the Resource of Management. *J. Bus. Res.* **1995**, *33*, 91–101. [CrossRef]

38. Li, L.; Su, F.; Zhang, W.; Mao, J.-Y. Digital transformation by SME entrepreneurs: A capability perspective. *Inf. Syst. J.* **2017**, *28*, 1129–1157. [CrossRef]

39. Helfat, C.E.; Martin, J.A. Dynamic managerial capabilities: Review and assessment of managerial impact on strategic change. *J. Manage.* **2015**, *41*, 1281–1312. [CrossRef]

40. Yuan, Y.-L.; Gretzel, U.; Fesenmaier, D.R. Internet Technology Use by American Convention and Visitors Bureaus. *J. Travel Res.* **2003**, *41*, 240–255. [CrossRef]

41. Bilgihan, A.; Okumus, F.; Kwun, D.J.W. Information technology applications and competitive advantage in hotel companies. *J. Hosp. Tour. Technol.* **2011**, *2*, 139–154. [CrossRef]

42. Buil-Fabregà, M.; Alonso-Almeida, M.D.M.; Bagur-Femenías, L. Individual dynamic managerial capabilities: Influence over environmental and social commitment under a gender perspective. *J. Clean. Prod.* **2017**, *151*, 371–379. [CrossRef]

43. Alonso-Almeida, M.D.M.; Bremser, K. Strategic management decisions in power positions to achieve business excellence in small service businesses: Does gender matter? *Eur. Account. Manag. Rev.* **2014**, *1*, 1–24. [CrossRef]

44. Arend, R.J. Social and Environmental Performance at SMEs: Considering Motivations, Capabilities, and Instrumentalism. *J. Bus. Ethics* **2013**, *125*, 541–561. [CrossRef]

45. O'Neil, I.; Usbasaran, D. Balancing "what matters to me" with "what matters to them": Exploring the legitimation process of environmental entrepreneurs. *J. Bus. Ventur.* **2016**, *31*, 133–152. [CrossRef]

46. Sebhatu, S.A. Managerial capabilities and firms' sustainable performance: Evidence from Chinese manufacturing small and medium-sized enterprises. *Front. Manag. Bus.* **2021**, *2*, 74–86. [CrossRef]

47. Krishnan, H.A.; Park, D. A few good women—on top management teams. *J. Bus. Res.* **2005**, *58*, 1712–1720. [CrossRef]

48. Catalyst. *The Bottom Line: Connecting Corporate Performance and Gender Diversity*; Catalyst: New York, NY, USA, 2004.

49. Chiu, C.-M.; Wang, E.T. Understanding Web-based learning continuance intention: The role of subjective task value. *Inf. Manag.* **2008**, *45*, 194–201. [CrossRef]

50. Venkatesh, V.; Morris, M.G.; Davis, G.B.; Davis, F.D. User Acceptance of Information Technology: Toward a Unified View. *MIS Q.* **2003**, *27*, 425–478. [CrossRef]

51. Marakas, G.M.; Yi, M.Y.; Johnson, R. The Multilevel and Multifaceted Character of Computer Self-Efficacy: Toward Clarification of the Construct and an Integrative Framework for Research. *Inf. Syst. Res.* **1998**, *9*, 126–163. [CrossRef]

52. Raymond, L. The Presence of End-User Computing in Small Business: An Exploratory Investigation of Its Distinguishing Organizational And Information Systems Context. *INFOR: Inf. Syst. Oper. Res.* **1987**, *25*, 198–213. [CrossRef]

53. Terzis, V.; Economides, A.A. Computer based assessment: Gender differences in perceptions and acceptance. *Comput. Hum. Behav.* **2011**, *27*, 2108–2122. [CrossRef]

54. Ong, C.S.; Lai, J.Y. Gender differences in perceptions and relationships among dominants of e-learning acceptance. *Comput. Hum. Behav.* **2006**, *22*, 816–829. [CrossRef]

55. Huang, W.-H.D.; Hood, D.W.; Yoo, S.J. Gender divide and acceptance of collaborative Web 2.0 applications for learning in higher education. *Internet High. Educ.* **2013**, *16*, 57–65. [CrossRef]

56. Kripanont, N. *Examining a Technology Acceptance Model of Internet Usage by Academics within Thai Business Schools*; Victoria University: Melbourne, Australia, 2007.

57. Wang, H.-Y.; Wang, S.-H. User acceptance of mobile internet based on the Unified Theory of Acceptance and Use of Technology: Investigating the determinants and gender differences. *Soc. Behav. Pers. Int. J.* **2010**, *38*, 415–426. [CrossRef]

58. Miura, I.T. The relationship of computer self-efficacy expectations to computer interest and course enrollment in college. *Sex Roles* **1987**, *16*, 303–311. [CrossRef]

59. Taylor, W.A. Computer-mediated knowledge sharing and individual user differences: An exploratory study. *Eur. J. Inf. Syst.* **2004**, *13*, 52–64. [CrossRef]

60. Busch, T. Gender Differences in Self-efficay and Attitudes towards Computers. *J. Educ. Comput. Res.* **1995**, *12*, 147–158. [CrossRef]

61. Murphy, C.A.; Coover, D.; Owen, S.V. Development and Validation of the Computer Self-Efficacy Scale. *Educ. Psychol. Meas.* **1989**, *49*, 893–899. [CrossRef]

62. Fedorowicz, J.; Vilvovsky, S.G.; Golibersuch, A.J. Gender Differences in Teenagers' Elective Use of Computer Technology. *Commun. Assoc. Inf. Syst.* **2010**, *27*, 3. [CrossRef]

63. Dholakia, R.R.; Dholakia, N.; Kshetri, N. *Gender and Internet Usage. The Internet Encyclopedia*; Bidgoli, H., Ed.; Wiley: New York, NY, USA, 2003.

64. Beyer, S. Gender differences and intra-gender differences amongst Management Information Systems students. *J. Inf. Syst. Educ.* **2020**, *19*, 301–310.

65. Czaja, S.J.; Charness, N.; Fisk, A.D.; Hertzog, C.; Nair, S.N.; Rogers, W.A.; Sharit, J. Factors predicting the use of technology: Findings from the center for research and education on aging and technology enhancement (create). *Psychol. Aging* **2006**, *21*, 333–352. [CrossRef] [PubMed]

66. Bagozzi, R.P. The Self-Regulation of Attitudes, Intentions, and Behavior. *Soc. Psychol. Q.* **1992**, *55*, 178. [CrossRef]
67. Walls, L.; Hoffman, A.J. Exceptional boards: Environmental experience and positive deviance from institutional norms. *J. Organ. Behav.* **2013**, *34*, 253–271. [CrossRef]
68. Webb, E. An Examination of Socially Responsible Firms' Board Structure. *J. Manag. Gov.* **2004**, *8*, 255–277. [CrossRef]
69. Provasi, R.; Harasheh, M. Gender diversity and corporate performance: Emphasis on sustainability performance. *Corp. Soc. Responsib. Environ. Manag.* **2021**, *28*, 127–137. [CrossRef]
70. Nielsen, S.; Huse, M. Women directors' contribution to board decision-making and strategic involvement: The role of equality perception. *Eur. Manag. Rev.* **2010**, *7*, 16–29. [CrossRef]
71. Dawson, L.M. Ethical Differences Between Men and Women in The Sales Profession. *J. Bus. Ethics* **1997**, *16*, 1143–1152. [CrossRef]
72. Radtke, R.R. The Effects of Gender and Setting on Accountants' Ethically Sensitive Decisions. *J. Bus. Ethics* **2000**, *24*, 299–312. [CrossRef]
73. Carlson, R. Understanding Women: Implications for Personality Theory and Research. *J. Soc. Issues* **1972**, *28*, 17–32. [CrossRef]
74. Eagly, A.H.; Carli, L.L. *Through the Labyrinth: The Truth about How Women Become Leaders*; Harvard Business Press: Boston, MA, USA, 2007.
75. Eagly, A.H.; Karau, S.J.; Makhijani, M.G. Gender and the effectiveness of leaders: A meta-analysis. *Psychol. Bull.* **1995**, *117*, 125–145. [CrossRef] [PubMed]
76. Kemp, L.J.; Madsen, J.; Davis, J. Women in business leadership: A comparative study. *Int. J. Cross Cult. Manag.* **2015**, *15*, 215–233. [CrossRef]
77. Li, J.; Zhao, F.; Chen, S.; Jiang, W.; Liu, T.; Shi, S. Gender Diversity on Boards and Firms' Environmental Policy. *Bus. Strat. Environ.* **2017**, *26*, 306–315. [CrossRef]
78. Williams, R.J. Women on Corporate Boards of Directors and their Influence on Corporate Philanthropy. *J. Bus. Ethics* **2003**, *42*, 1–10. [CrossRef]
79. Adams, R.B.; Licht, A.N.; Sagiv, L. Shareholders and stake-holders: How do directors decide? *Strateg. Manage. J.* **2011**, *32*, 1331–1355. [CrossRef]
80. Shaya, N.; Abu, K.R. Feminizing leadership in the Middle East: Emirati women empowerment and ledership style. *Gend. Manag.* **2017**, *32*, 590–608. [CrossRef]
81. Adams, R.B. Women on boards: The superheroes of tomorrow? *Leadersh. Q.* **2016**, *27*, 371–386. [CrossRef]
82. Atif, M.; Alam, M.S.; Hossain, M. Firm sustainable investment: Are female directors greener? *Bus. Strateg. Environ.* **2020**, *29*, 3449–3469. [CrossRef]
83. INE. *Encuesta de Ocupación Hotelera. Tablas Comunes a Todos Los Tipos de Alojamiento*; INE: Madrid, Spain, 2021.
84. Ordanini, A.; Parasuraman, A. Service Innovation Viewed Through a Service-Dominant Logic Lens: A Conceptual Framework and Empirical Analysis. *J. Serv. Res.* **2010**, *14*, 3–23. [CrossRef]
85. Camisón, C. Strategic attitudes and information technologies in the hospitality business: An empirical analysis. *Int. J. Hosp. Manag.* **2000**, *19*, 125–143. [CrossRef]
86. Sahadev, S.; Islam, N. Why hotels adopt ICTs: A study on the ICT adoption propensity of hotels in Thailand. *Int. J. Contemp. Hosp. Manag.* **2005**, *17*, 391–401. [CrossRef]
87. Åhman, H. Social sustainability—Society at the intersection of development and maintenance. *Local Environ.* **2013**, *18*, 1153–1166. [CrossRef]
88. Eizenberg, E.; Jabareen, Y. Social Sustainability: A New Conceptual Framework. *Sustainability* **2017**, *9*, 68. [CrossRef]
89. Mata, F.J.; Fuerst, W.L.; Barney, J.B. Information Technology and Sustained Competitive Advantage: A Resource-Based Analysis. *MIS Q.* **1995**, *19*, 487. [CrossRef]
90. Carr, N.G. IT Doesn't Matter. *Harv. Bus. Rev.* **2003**, *81*, 41–49. [CrossRef]
91. Broto, O.; Forés, B.; Lapiedra, R. Desmontando las ideas preconcebidas sobre la relación entre género y tecnología: El ejemplo del CRM en el sector turístico. In *Turismo Eres tú: El Valor de las Personas*; Lapiedra, R., Rodríguez, R., Eds.; Tirant lo Blanch: Valencia, Spain, 2020; pp. 163–198.
92. Larrieta-Rubín de Celis, I.; Velasco-Balmaseda, E.; Fernández de Bobadilla, S.; Alonso-Almeida, M.D.M.; Intxaurburu-Clemente, G. Does having women managers lead to increased gender equality practices in corporate social responsibility? *Bus. Ethics* **2015**, *24*, 91–110. [CrossRef]
93. Galbreath, J. Corporate social responsibility strategy: Strategic options, global considerations. *Corp. Gov. Int. J. Bus. Soc.* **2006**, *6*, 175–187. [CrossRef]
94. Boulouta, I. Hidden Connections: The Link Between Board Gender Diversity and Corporate Social Performance. *J. Bus. Ethics* **2013**, *113*, 185–197. [CrossRef]
95. Calabrese, A.; Costa, R.; Rosati, F. Gender differences in customer expectations and perceptions of corporate social responsibility. *J. Clean. Prod.* **2016**, *116*, 135–149. [CrossRef]
96. Dillman, D.A. *Mail and Telephone Surveys: The Total Design Method*; Wiley & Sons: New York, NY, USA, 1978.
97. Cohen, P.; Cohen, J.; West, S.G.; Aiken, L.S. *Applied Multiple Regression/Correlation Analysis for the Behavioral Science*, 3rd ed.; Lawrence Erlbaum: Mahwah, NJ, USA, 2003.
98. Aiken, L.S.; West, S.G.; Reno, R.R. *Multiple Regression: Testing and Interpreting Interactions*; Sage: Thousand Oaks, CA, USA, 1991.

99. Staniškienė, E.; Stankevičiūtė, Ž. Social sustainability measurement framework: The case of employee perspective in a CSR-committed organisation. *J. Clean. Prod.* **2018**, *188*, 708–719. [CrossRef]

100. Ali, Z.; Sun, H.; Ali, M. The Impact of Managerial and Adaptive Capabilities to Stimulate Organizational Innovation in SMEs: A Complementary PLS–SEM Approach. *Sustainability* **2017**, *9*, 2157. [CrossRef]

101. Tabak, F.; Barr, S.H. Propensity to adopt technological innovations: The impact of personal characteristics and organizational context. *J. Eng. Technol. Manag.* **1999**, *16*, 247–270. [CrossRef]

102. Post, C.; Rahman, N.; Rubow, E. Green Governance: Boards of Directors' Composition and Environmental Corporate Social Responsibility. *Bus. Soc.* **2011**, *50*, 189–223. [CrossRef]

103. Goh, E.; Muskat, B.; Tan, A.H.T. The nexus between sustainable practices in hotels and future Gen Y hospitality students' career path decisions. *J. Teach. Travel Tour.* **2017**, *17*, 237–253. [CrossRef]

104. Cuadrado-Ballesteros, B.; Martínez-Ferrero, J.; Garcia-Sanchez, I.-M. Board Structure to Enhance Social Responsibility Development: A Qualitative Comparative Analysis of US Companies. *Corp. Soc. Responsib. Environ. Manag.* **2017**, *24*, 524–542. [CrossRef]

105. Wigfield, A.; Eccles, J.S.; Pintrich, P.R. Development between the ages of ll and 25. In *Handbook of Educational Psychology*; Routledge, Taylor and Francis Group: New York, NY, USA, 1996.

106. ITH. *TechYhotel Project. Estudio de Investigación Sobre el Grado de Implantación de Nuevas Tecnologías en el Sector Hotelero Español*; ITH: Madrid, Spain, 2018.

107. UNWTO. *Informe Mundial Sobre las Mujeres en el Turismo*, 2nd ed.; WTO: Madrid, Spain, 2021.

108. Buzzao, G.; Rizzi, F. On the conceptualization and measurement of dynamic capabilities for sustainability: Building theory through a systematic literature review. *Bus. Strat. Environ.* **2021**, *30*, 135–175. [CrossRef]

109. Beasy, K.; Gale, F. Disrupting the Status-Quo of Organisational Board Composition to Improve Sustainability Outcomes: Reviewing the Evidence. *Sustainability* **2020**, *12*, 1505. [CrossRef]

110. Vallance, S.; Perkins, H.C.; Dixon, J.E. What is social sustainability? A clarification of concepts. *Geoforum* **2011**, *42*, 342–348. [CrossRef]

111. Woodcraft, S. Understanding and measuring social sustainability. *J. Urban Regen. Renew.* **2015**, *8*, 133–144.

112. Fallon-Byrne, L.; Harney, B. Microfoundations of dynamic capabilities for innovation: A review and research agenda. *Ir. J. Manag.* **2017**, *36*, 21–31. [CrossRef]

113. Mousavi, S.; Bossink, B.; Van Vliet, M. Microfoundations of companies' dynamic capabilities for environmentally sustainable innovation: Case study insights from high-tech innovation in science-based companies. *Bus. Strat. Environ.* **2019**, *28*, 366–387. [CrossRef]