



## RESEARCH ARTICLE

# Environmental perceptions of global business travel by Swiss companies in the Zurich airport region [version 1; peer review: awaiting peer review]

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## Abstract

**Background:** This article presents findings from research conducted before the coronavirus disease 2019 (COVID-19) pandemic on companies located in the Zurich airport region of Switzerland, regarding the needs for global business travel and its impacts.

**Methods:** The study involved a mixed methods approach. Five hypotheses were tested using inferential statistics on data obtained from pre-tested closed questions in a web-based survey. Deeper context was explored through an interview-based case-study conducted at a Swiss pharma company.

**Results:** Supporting alternative hypothesis 3 (Ha(3)), a significant positive relationship was found between travel frequency and business growth,  $F(1, 100) = 11.31, p = 0.0011$ . Supporting Ha(4), corporate culture had a significant positive relationship with business travel frequency ( $F(1, 100) = 15.50, p = 0.0002$ ) and average trip length ( $F(1, 100) = 6.39, p = 0.01$ ). And thirdly supporting Ha(5), corporate social responsibility had a significant relationship with global business travel (91%). Ho(2) and Ho(3) were accepted. The case study found that smart corporate travel policies and regulations should be instantiated to enhance our environment, which would also benefit employee wellbeing. Travel can be reduced significantly despite being demonstrated that physical co-presence is important for building trust. The case study suggests tools to support the monitoring and management of global business travel by organizations.

**Conclusions:** COVID-19 has impacted travel for business significantly, and future research will be necessary to assess its impact. The article explores the ongoing research in this area, and several relevant implications are proposed for future leaders. The case study found willingness to pay both corporate and individual green taxes, and a deficiency in corporate communication around the environment. Business travel is needed to build trust; however, it can be reduced.

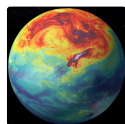
## Open Peer Review

**Reviewer Status** AWAITING PEER REVIEW

Any reports and responses or comments on the article can be found at the end of the article.

**Keywords**

Switzerland. Business travel. Covid-19. Environmental awareness. Mobility. Corporate Culture. Leadership.



This article is included in the **Climate Action** gateway.

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## Introduction

Prior to the coronavirus disease 2019 (COVID-19) pandemic, global air travel had never been more popular. Industry projections expected the industry to serve 20.9 billion air passengers per year by 2040, due to cheaper airfares and increasing flight availability (Airports Council International, 2018; International Air Transport Association, 2018). Connectivity via flight had never been better. However, this connectivity comes with several downsides for the global community; the best-known of which are greenhouse gas emissions. In Switzerland, carbon dioxide (CO<sub>2</sub>) emissions from air transportation are 4% of the country's total emissions, of which about a third can be attributed to business travelers (Flughafen Zürich Ag., 2018).

The proliferation of international business in the era of the pre-COVID-19 global economy generated constant growth in the number of individuals who engaged in long-distance travel for work-related activities (Gustafson, 2012). Derudder and Witlox (2016) typifies the literature on this growth. In their discussion of mobility and hypermobility, such travel is expected from employees as part of their day to day working lives. It becomes increasingly common as people rise to more senior positions and is supported by a culture which views travel as an expectation, and indeed a privilege to which employees should aspire.

However, others such as Cohen, Hanna, and Gössling (2018) take a more critical stance on the prevalence of travel in business (Gössling, Hanna, Higham, Cohen, & Hopkins, 2019). For many employees, travel is a burden imposed from above, with significant proven health risks and many personal downsides (DeFrank, Konopaske, & Ivancevich, 2000; Westman & Etzion, 2002). Employees who feel this way face challenges in their lack of enthusiasm for travel, particularly as they climb the corporate ladder. The study on which this paper is based, conducted prior to the emergence of COVID-19, began when the researcher asked himself: why do we travel so much for business? Is it because we *must* for business-reasons? Or is it mostly because of an established culture of travel? What if we do not?

As well as employee wellbeing, the environment provides a pressing rationale for this reconsideration. Mr. Antonio Guterres (Secretary-General, United Nations) stated in the COP25 opening ceremony at the Madrid Summit in December 2019, that climate change is now a threat to life across the world. Alongside intergovernmental organizations, climate activists have issued a clarion call for actions such as demanding an end to fossil fuel subsidies and the implementation of restrictions on carbon-emitting activities from worldwide leaders, rather than relying on passive target setting. Their demands, along with the aspirations of COP21, are near-impossible to reconcile with expectations of continued growth in air transport and business travel.

## Background literature

The reasons given for business travel have been the subject of study for several years. Above all, the context is one in which current business leaders and executives have a strong preference for face-to-face meetings over technological alternatives (Koyen, 2009; Harvard Business Review, 2009). There are two areas in which that preference is to an extent backed up by research: the transfer of knowledge, and trust-building. Both are better accomplished in some circumstances by face-to-face communication, and the ensuing associated travel, than through any of the available virtual alternatives (Tani M, 2005; Welch, Welch, & Worm, 2007).

But the environmental load, and the negative impacts of extensive travel on employee health and retention, are both pressing. The gap in the literature linking the environment with corporate social responsibility (CSR) was clearly identified as early as 1994: "this concern for the environment serves as a new, unifying theme for the study of international business, which will no doubt continue to deepen and grow in importance" (Wright & Ricks, 1994, p. 699). In some areas it has received attention – there are a range of studies on resource use, production-based pollution, and the range of responses firms can take from internal policies to engagement with regulatory bodies. These were often prompted by large-scale and widely reported disasters, along with responses to governance issues en-vogue at various historical moments. But awareness remains sparse and further studies are needed to highlight options that might work in particular settings (Kolk, 2016).

While the COVID-19 pandemic has seen a huge drop-off in air travel, there are indications that many businesses intend to resume travel in the near-term. However, as has been argued in many fields, this may provide a one-off opportunity to reset travel on a more sustainable footing, and to break the hold that travel has over business culture (Koonin, 2020; Hepburn *et al.*, 2020; Kuzemko *et al.*, 2020). The current normal is remote, and in some areas, it is allowing equivalent if not superior functionality to in-person communication (Clopper, Baccei, & Sel, 2020). The potential for an increased use of technology to replace travel has been building for a decade or more (Julsrud, Denstadli, & Hjorthol, 2014). It may now be realized.

The study reported below, conducted prior to COVID-19, demonstrates that not all business travel is essential, and will add to the evidence-base that argues a more targeted and specific approach to business travel would benefit employees, the environment, and businesses in the future (Poom, Orru, & Ahas, 2017). Leaders of the future should de-normalize travel both in how they act and the policies they engage in for their employees.

## Switzerland

Switzerland is a small landlocked country located in central Europe, with a population of 8.5 million people, as of the 2018 census (Federal Statistical Office, 2018). Switzerland receives almost double the number of travelers that would be anticipated from its expenditure (Bripi, 2019). This indicates that Swiss companies attract business travelers disproportionately to their size, and this can be applied doubly so in the Zurich area. The study focuses on the Zurich airport region in Switzerland; a population of around 129,329 inhabitants in the following communities: Bassersdorf, Oberglatt, Rümlang, Opfikon-Glattbrugg, Wallisellen, Wangen-Brüttisellen, Dietlikon, Dübendorf, Nürensdorf and Kloten. Zurich Airport (2018) states that 31 million passengers used Zurich airport, of which 27% (or 8.37 million passengers) were international business travelers.

How business travel is viewed within a country varies not just with frequency but also with the different perspectives that people bring to bear on it. Switzerland is a country where the people are widely known to be environmentally friendly, outdoor sport-oriented and nature lovers. This is reflected in Switzerland being the first country to hold a ballot on implementing a green economy (in September 2016). Research demonstrates the consequential value that the Swiss place on their time; for instance, Bates, Bierlaire, Abay, Axhausen, and König (2006) examined how much one hour of traveling was worth to people in different countries within Europe. They found that Swiss citizens place a higher value on their time than any other European citizens do. In Swiss culture, free time and traveling are signs of status – with first class travel and particularly air travel acting as additional signifiers.

Two studies provide insight into how the Swiss view air travel and business travel. Firstly, Bruderer Enzler (2017) provides a short account of private air travel in Switzerland. Of interest is the brief examination of “attitudinal predictors”, which analyze behavior on a range of factors based on surveying undertaken in 2007. Of most relevance here was the finding that while those who voted for the Green Party of Switzerland, caused lower emissions overall, they flew nearly as often as the rest of the population. Hinnen, Hille, and Wittmer (2017) found that a significant proportion of passengers might be willing to pay extra for “green” products associated with air travel, such as organic on-board food or carbon offsets.

## Objectives

The main aim of the study was to help the author understand two simple questions: why do we travel so much for business. Is it because we have to, or because we need to? To answer these, a study was undertaken using both quantitative and qualitative research methods focused in businesses within the Zurich airport area in Switzerland. The study will contribute a detailed case study to the literature, with a greater focus on the intersection between environmental awareness and business travel, than previously published work.

## Methods

This study followed a mixed-methods approach, utilizing both a survey and a detailed case study. This section will outline the main methodological features of the study and give detail as to the characteristics of both the survey respondents and case study. Hypotheses were developed based on secondary literature research before the study was undertaken and are reported in the text below where appropriate. All study materials can be found as extended data (Echeverria-Arrondo & Wolfs, 2021).

## Quantitative survey

In total, five hypotheses were tested quantitatively using pre-tested closed questions in a web-based survey, which was collecting data from September to December 2019.

- Ha(1) “As environmental awareness (from the corporate) increases, business travel decreases”.
- Ha(2) “As environmental awareness (from the individual) increases, business travel decreases”.
- Ha(3) “There is a significant positive relationship between global business travel and business growth”.
- Ha(4) “Corporate culture is the predominant reason business travel is undertaken as frequently as it is”.
- Ha(5) “As corporate social responsibilities policies linked to environmental awareness (from the corporate) increases, business travel decreases”.

**Table 1.** Questionnaire items corresponding to constructs, variables, and hypotheses.

Construct	Variable	Question Text	Question	H1	H2	H3	H4	H5
Global Business Travel	Travel Frequency	On average, how often do you travel for business?	4			x	x	x
	Trip Length	How long are each of your business trips, on average?	5					
Corporate Culture	Business Growth	Travelling for business increases business growth.	1			x		
		In my experience, business travel has been essential to achieving the results I have.	8					
	Meeting Culture	I enjoy travelling for business.	2					
		Video/audioconferencing is preferable to a business trip.	6				x	
		Information Technology (IT) has reduced the use of air travel for business purposes.	7					
Environmental Awareness	Climate Science Knowledge	I understand the greenhouse effect, its causes, and its consequences.	9					
		I understand the greenhouse gas emissions caused by an aircraft.	10	x	x			x
		I understand the consequences of global warming.	11					
	Social Responsibility	I am willing to pay more, as an individual, when purchasing pollution products and services, through "green taxes".	16			x		
		I am willing to pay (as an individual) a fee to NGO's such as "myClimate", when purchasing pollution products and services--business related--through an off-setting carbon footprint compensation.	18					
		I am willing to pay more, as a corporation, when purchasing pollution products and services, through "green taxes".	17		x			

Information regarding the operationalization of the three major constructs, along with the evaluation of specific hypotheses, can be seen in [Table 1](#). Each construct is listed along with any relevant variables, and the specific questionnaire items that form one. [The six columns on the right denote which of the five specified hypotheses are being tested.](#)

The questionnaire designed by the researcher was tested for validity and reliability using Qualtrics test survey tool. Pilot testing was undertaken with 10 people in August 2019. The criteria for selection of these 10 people was to hold a role in a company involving traveling, two with native English, and the rest German. They were asked beforehand to check their willingness and availability for participation. They were asked to highlight any unclear questions and to provide overall feedback which was used to improve the final survey. This was especially important as the survey was bilingual, in German and English, with the researcher not a native speaker of either (see Appendices A and B). The participants also timed how long the test took to complete, in order to assess whether it needed to be shorter or any questions amended. The researcher made some corrections based on the feedback to make the questionnaire clearer avoiding ambiguity and corrected the German language.

The study is based on the region surrounding Zurich airport, in which the latest research available (from 2014) states that there are 118,626 people employed (Flughafen Zürich Ag., 2014). Informal consultations with local human resources (HR) managers resulted in an estimate that 30 to 40 percent of all jobs within the Zurich Airport region involve global business travel, and thus might fall under consideration for this study. Therefore, the appropriate total population size for this study is 36,000 individuals. [Mugenda and Mugenda \(2012\)](#) posited that where a research population is large, the recommended minimum sample size is 384. This is predicated on the assumption that the population is normally distributed, and the degree of confidence is 95%, at a significance level of 5%.

The study utilized multistage sampling, in which clusters of the overall population are selected and then random samples drawn from each of those clusters. This allows a good balance of cost, convenience and accuracy compared to alternative sampling methodologies ([Gall, Gall & Borg, 2007](#)). In this case, clusters were formed of companies with which the researcher had a [pre-existing relationship](#). A random sample of their employees was then taken for the survey. Participants were contacted, either by phone or by email, to gain their consent to invite them to take part in the survey.

The survey was sent to target 400 respondents in September 2019 and conducted through [Qualtrics](#) software, Version 2019 to collect the data and perform quantitative statistical analysis. [Google Forms](#) or [SurveyMonkey](#) could have been used as open access survey alternatives, paired with [Apache OpenOffice](#) for quantitative analysis.

For each question of the survey, responses were coded numerically along a seven-point Likert scale ranging from “very strongly disagree” (coded as -3) to “very strongly agree” (+3), with “neither agree nor disagree” as the neutral option (0). This allowed examination of the correlation between different responses. Then Pearson’s correlation co-efficient was utilized to draw conclusions about the strength of the correlation. Standard deviations provided information on the breadth of opinion. Regression analysis was performed, where warranted, to illustrate the relationship between the variables. Analysis of variance (ANOVA) was used in inferential tests when determining the strength of influence that the independent variables had on the dependent variable.

### Qualitative case study

A case study, the interviews for which were carried out between August and September 2019 at a Swiss pharma company in the region provided further in-depth understanding of the reasoning and intentions behind the business travel. Ms. Silvana Micheli, a Swiss citizen native in German, Swiss-German and very high level of the English language, was trained by the researcher to perform the interviews on his behalf to avoid any bias or influencing the interviewees. Ms. Silvana Micheli is a Learning and Development professional in the pharma industry.

In the organization, between 30 and 40 percent of all roles involve traveling. Overall, 15 employees were selected for the case study, a number which was felt to be sufficient for additional detail without risking data saturation. They were identified starting from the nominal description: gender, age, role grade and type of role and department. Only those with a role involving traveling were included. They were intentionally chosen to represent a broad scale of seniority and approached by email for their consent to participate in August 2019. At that time, they were informed of the nature of the study and the topic area, but not the research.

An NDA (non-disclosure agreement) was issued and signed by representatives from the pharma company. The male researcher countersigned it to preserve the anonymity of the company and its employees. The data collected has been

stored at SBS Swiss Business School safely and will be kept for five years. After this period, under the terms of the NDA the material including audio recordings of the interviews will be destroyed.

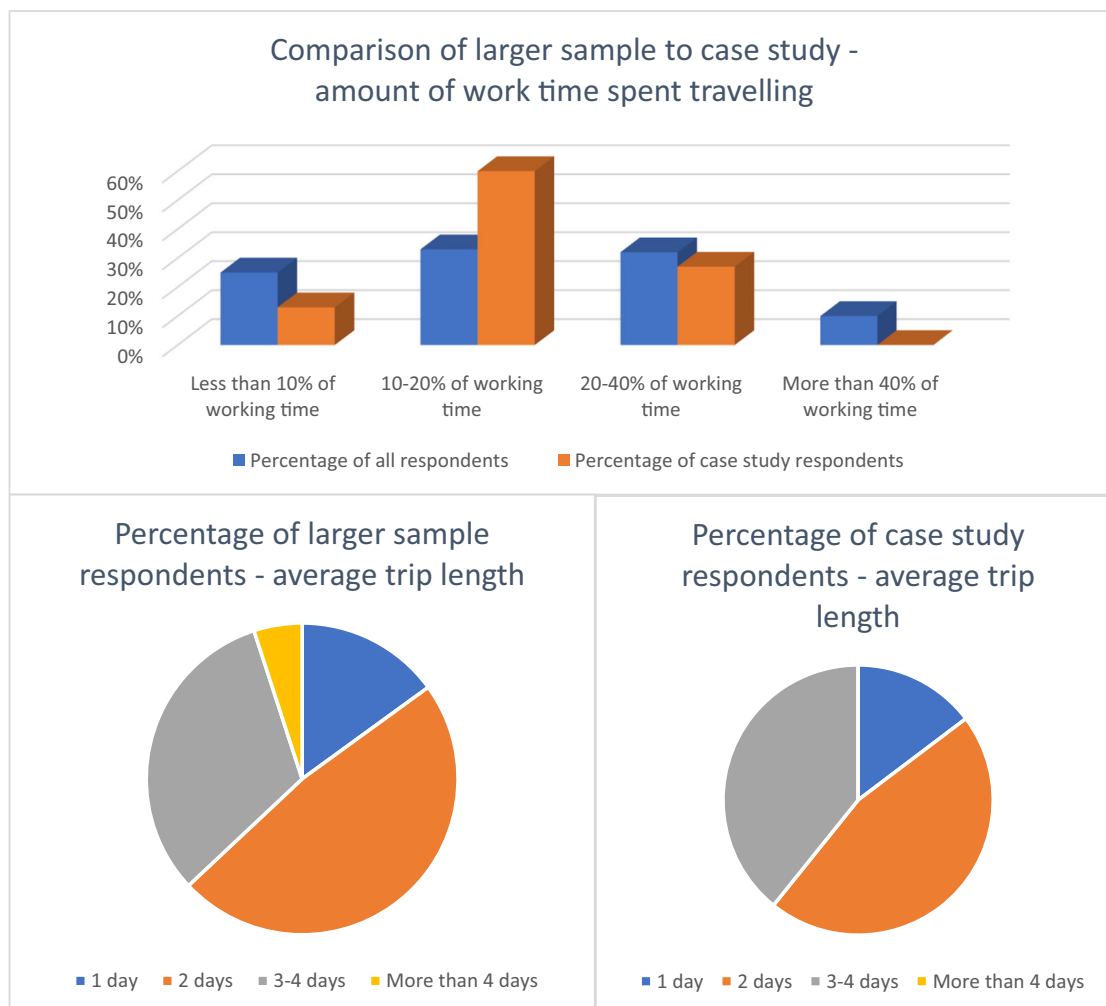
An interview format was implemented with participants and questions were based upon the structure of the survey questionnaire to enable meaningful comparison of results. This gave the interviews a clear structure while allowing the possibility of extended answers and follow up questions as appropriate. Sessions were 45 minutes long, one on one, took place in the offices of the pharma company, and audio was recorded for the purpose of this research study only. The interviewer also took notes, manually writing down the answers to the interview questions. No repeat interviews were necessary. No participant refused to take part. Transcripts were not made available to participants. At the beginning of each interview the interviewer read the consent for audio recording and provided two copies to be signed. The interview audio analysis was part of a broader study than reported here.

### Ethical approval

An ethics declaration form was submitted to and approved by SBS Swiss Business School Human Resources Ethics Committee (approval number: 642). Additionally, a research panel consisting of a supervisor assigned by SBS Swiss Business School and industry specialists, examined the quantitative and qualitative surveys and this research proposal, before giving ethical permission for the study.

### Results

In total, 104 completed questionnaires were received in response to the quantitative study (Echeverria-Arrondo & Wolfs, 2021). This was a response rate of 26%, which given that rates as low as under 10% are not uncommon with web surveys, was reasonable. However, future researchers may want to take account of the advice in van Mol (2015) and provide



**Figure 1. Percentage of work time travelling and trip length.**



repeated digital reminders for potential participants. To prevent lengthening the quantitative survey, which might have further impacted the response rate, demographic data was not collected. The age range of the respondents is estimated by the researcher to have been between 25 and 60 years old. Around 30–40% female and 60–70% male.

For the case study, four of the 15 participants were female, and 11 were male (26%, 74% male). Their ages ranged from 25 to 65: 25–34: 3 (20%), 35–44: 4 (27%), 45–54: 6 (40%), 55–65: 2 (13%).

### Business travel and environmental awareness

Travel time and trip length varied markedly among both survey respondents and case study participants, as is shown in Figure 1. A Pearson's Chi-squared test of independence (with Yates' continuity correction) between travel frequency and trip length was not significant,  $\chi^2(1) = 3.31e-31, p = 1$ . It was therefore acceptable to use them as independent variables for inferential statistics.

Following Ham, Mrčela, and Horvat (2016) this study defined environmental awareness not only as a knowledge of environmental issues, but also a willingness to act on climate science as a corporation *and* as an individual. In business, that tends to be financial remuneration to the global citizenry in some form of green tax or financial offsetting of carbon footprint. There were thus two question sets which, taken together, illustrate 'environmental awareness'.

Regarding knowledge the questions asked were:

- Q9) "I understand the greenhouse effect, its causes, and its consequences."
- Q10) "I understand the greenhouse gas emissions caused by an aircraft."
- Q11) "I understand the consequences of the global warming."

Table 2 displays the correlation matrix for the three "climate science knowledge" questions. The three questions were highly positively correlated with one another, with Pearson R values ranging from 0.75 to 0.89. Since they are so strongly correlated, they are combined into one overall variable called "climate science knowledge" by averaging them together. Scores on this measure ranged from -0.333 to + 3.00, with a mean of 1.88, and a standard deviation of 0.876.

For each of the three statements, the percentage of respondents who endorsed the statement ("understand", "strongly understand", "very strongly understand") was over 95%.

And regarding willingness to act:

- Q16) "I am willing to pay more, as an individual, when purchasing pollution products and services, through "green taxes"."
- Q17) "I am willing to pay more, as a corporation, when purchasing pollution products and services, through "green taxes"."
- Q18) "I am willing to pay (as an individual) a fee to NGOs such as "myClimate", when purchasing pollution products and services – business related – through off-setting carbon footprint compensation."

Table 3 displays the correlation matrix for the three social responsibility questions. The three questions were positively correlated with one another, with Pearson R values ranging from 0.58 to 0.65. Since these responses are correlated, they were combined into one overall variable identified as "social responsibility", by averaging them together. Scores on this measure ranged from -0.333 to + 3.00, with a mean of 1.88, and a standard deviation of 0.876.

**Table 2. Correlation matrix for questions about climate science knowledge.**

	Greenhouse effect	Aircraft emissions	Global warming
Greenhouse effect	1.00	0.89	0.75
Aircraft emissions	0.89	1.00	0.75
Global warming	0.75	0.75	1.00



**Table 3. Correlation matrix for questions about social responsibility toward the environment.**

	Corporate tax	Individual tax	Individual off-setting
Corporate tax	1.00	0.65	0.58
Individual tax	0.65	1.00	0.62
Individual off-setting	0.58	0.62	1.00

**Ha(1), “as environmental awareness (from the corporate) increases, business travel decreases”**

This was not proven from the data collected. There was no significant difference between business travel and **wiliness** to pay corporate taxation. For ‘more’ and ‘less’ frequent travelers,  $F(1, 100) = 0.041$ ,  $p = 0.840$ . Therefore, the null hypothesis was accepted. No effect was found upon trip length,  $F(1, 100) = 0.33$ ,  $p = 0.86$ , nor was there any interaction between the two business travel variables,  $F(1, 100) = 1.96$ ,  $p = 0.165$ .

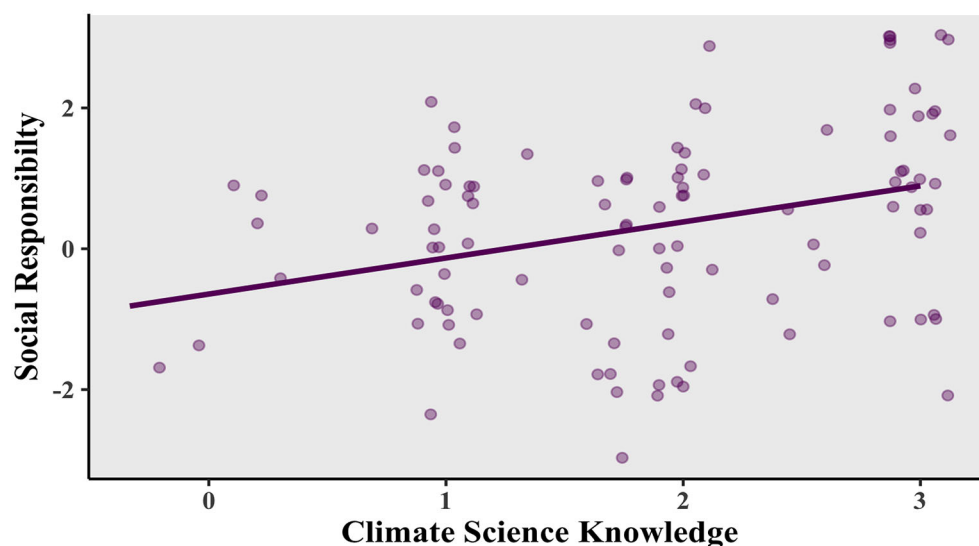
**Ha(2), “as environmental awareness (from the individual) increases, business travel decreases”**

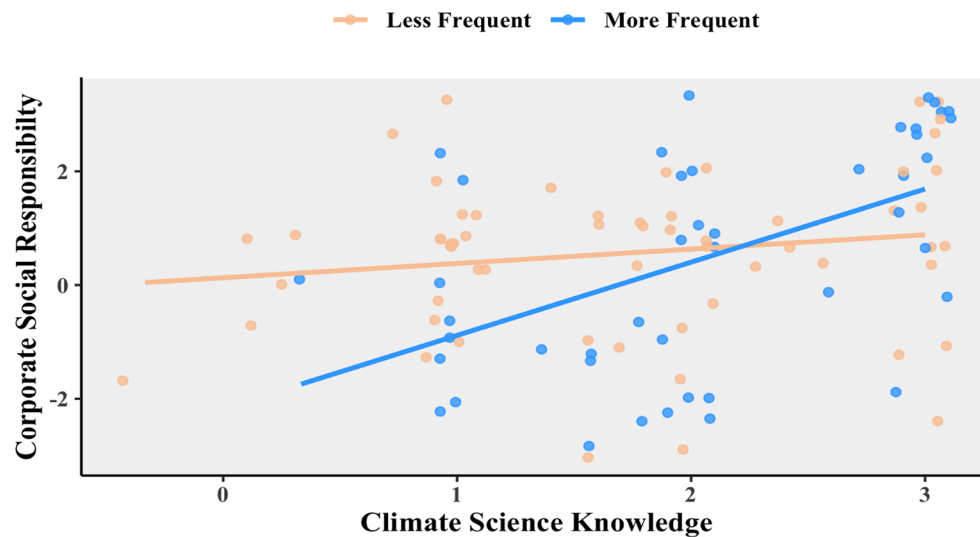
Again, the null hypothesis was accepted here with no statistically significant relationship being found. The analysis did not find a significant difference between more and less frequent travelers,  $F(1, 100) = 0.001$ ,  $p = 0.979$ . The analysis did not find an effect on trip length,  $F(1, 100) = 0.18$ ,  $p = 0.68$ , nor any interaction between the two business travel variables,  $F(1, 100) = 0.01$ ,  $p = 0.93$ .

There was a noticeable relationship between the variables making up environmental awareness at the corporate level: “climate science knowledge” and “corporate social responsibility”. As shown in **Figure 2**, a positive correlation was found, Pearson’s product-moment correlation  $R = 0.309$ , 95% confidence interval (CI) = 0.124-0.473,  $t(102) = 3.282$ ,  $p = 0.0014$ .

The next question which needed addressing was: is this relationship affected by business travel? To examine this more closely, the respondents were split into more frequent and less frequent travelers to be plotted in that relationship. This can be seen in **Figure 3**. For those who tend to travel more frequently, “climate science knowledge” and “social responsibility” are positively related,  $R = 0.528$ , 95% CI = 0.274 – 0.713,  $t(42) = 4.03$ ,  $p = 0.0002$ . However, there is no such correlation for those who travel less frequently, Pearson’s product-moment correlation  $R = 0.160$ , 95% CI = -0.097 – 0.398,  $t(58) = 1.24$ ,  $p = 0.221$ .

The analysis combined all the variables that were found related to global business travel, here operationalized as travel frequency. The researcher discovered that elements of “corporate culture” were related to “business travel”: liking business travel; and believing business growth comes from travel. It was also found that an interaction of the elements of

**Figure 2. Relationship between social responsibility and climate science knowledge.**



**Figure 3. Relationship between corporate social responsibility and climate science knowledge for less frequent (orange) and more frequent (blue) travelers.**

“environmental awareness” were related to “business travel”: similarly, “science knowledge” and “corporate social responsibility” are related.

#### Business travel and business growth

**Ha(3), “there is a significant positive relationship between global business travel and business growth”.**

To test this hypothesis, it was necessary to take both the responses to questions 1 and 8, and then consider the answers on a branching basis. The results of which are displayed in Table 4, with the number of respondents displayed.

- Q1: “traveling for business increases business growth.”
- Q8: “in my experience, business travel has been essential for achieving the results I have.”

A Pearson’s Chi-squared test of independence (with Yates’ continuity correction) was statistically significant,  $\chi^2(1) = 5.5283$ ,  $p = 0.01871$ . Given that dependence, for each respondent “business growth” was calculated by taking the average of the responses from Questions 1 and 8.

If global business travel is undertaken partly because people believe it contributes to their business growth, it would be expected that travel frequency be related to business growth. However, it would not necessarily be expected that the variables would be dependent to the extent that it would predict an average trip length. That is, those who travel more frequently do so because they believe it is integral for their business growth, and that trip length should not be related.

A 2 (trip length: shorter, longer)  $\times$  2 (travel frequency: less frequent, more frequent) between-subjects ANOVA was conducted to see whether “business growth” varied across the groups. The data showed that there was a significant difference for travel frequency: indeed, those who travel more frequently did rate travel as more important to their business growth.

**Table 4. Business travel and growth question responses.**

	Q8 Positive response	Q8 Negative response
Q1 Positive response	62	12
Q1 Negative response	18	12

Figure 4 is a scatterplot showing one blue point for each of the respondents, based on which of the four options they chose for travel frequency and their judgment of how important travel is to their business growth. There is random jitter added to the graph, so that each point is visible. The purple dots show the average number of people at each possible response by their size. The purple line shows the linear relation between the two variables. Analysis of this supports hypothesis 1, as there is a significant and positive correlation. Pearson's product-moment correlation  $R = 0.299$ , 95% CI = 0.113 – 0.465,  $t(102) = 3.164$ ,  $p = 0.002053$ .

The interviewees all believed that “business travel has been essential for achieving the results” they have; and two thirds of them also endorsed the idea that business travel increases business growth. There were several discussion points which provided an explanation of their rationale, and complicating factors. One interviewee mentioned the problem with regular travel and maintaining office relationships and workload. The idea of balance was mentioned by several respondents. The stresses of business travel were notable, but no consensus emerged from the group regarding its suitability for them as employees.

Regarding virtual teams, one of the interviewees said that to develop a team located in different sites, the sense of belonging to a team and being together developing relationships and trust, is key to success. And face-to-face contact remains by the best means to establish that rapport. However, interviewees supported the idea of Oertig and Buerger (2006) that irregular physical meetings, perhaps only annually, is enough to keep a virtual team working efficiently. Therefore, while face-to-face contact is needed within team-based environments, it can be kept to a minimum without significant drawbacks.

The overall message from the interviewees, supporting most of the literature mentioned above, is that achieving a balance is the goal to optimize employee and corporate prosperity.

### Corporate culture

Ha(4), “corporate culture is the predominant reason business travel is undertaken as frequently as it is”.

This was tested quantitatively with two questions:

- Q6) “Video/audioconferencing is preferable to a business trip.”
- Q7) “Information technology (IT) has reduced the use of air travel for business purposes.”

There was a significant positive correlation between responses to the two questions (see Figure 5), Pearson's product-moment correlation  $R = 0.51$ , 95% CI = 0.282 – 0.592,  $t(102) = 5.1003$ ,  $p = 0.000002$ . The researcher reasoned that respondents from corporations with a meeting culture that emphasizes meeting face-to-face would report greater

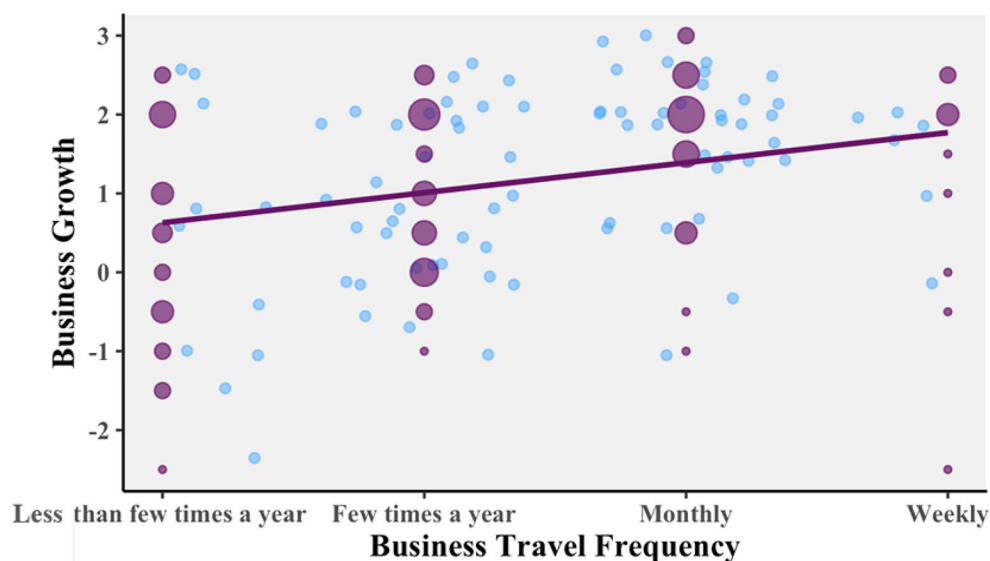
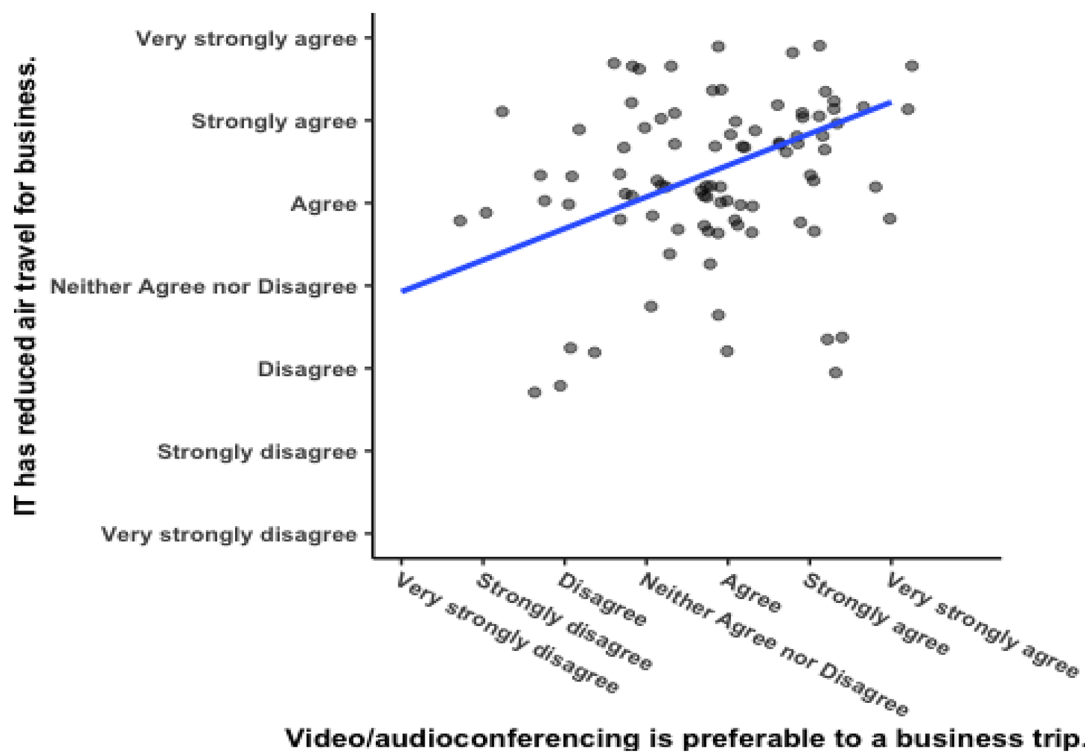
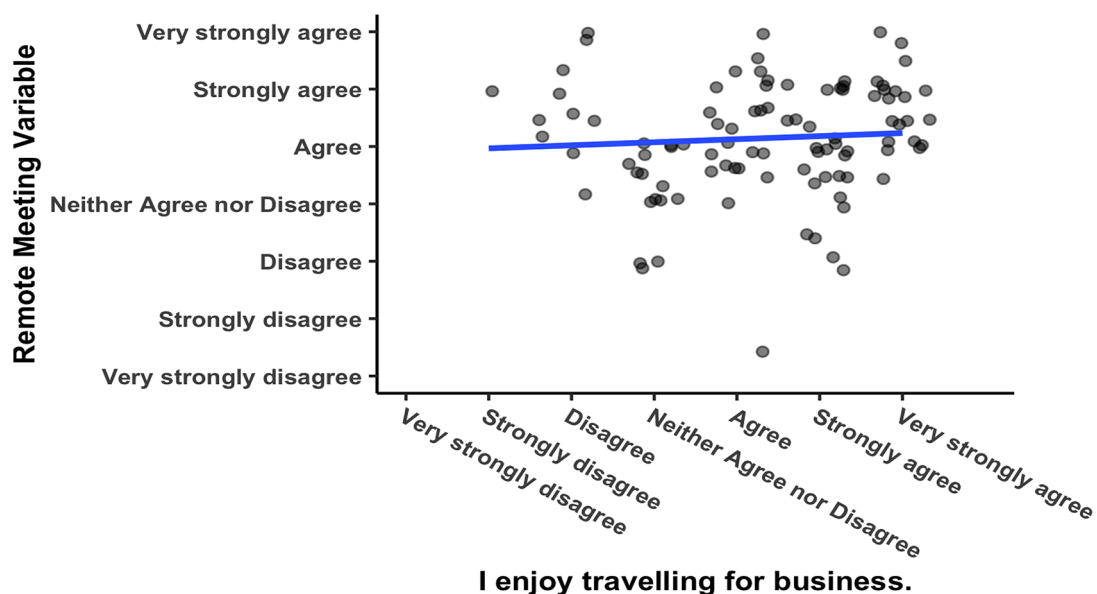


Figure 4. Relationship between business growth travel frequency.



**Figure 5. Responses to questions about remote meetings.**

enjoyment of business travelling. For one, they were hired by the corporation, so they are likely to embody the culture to begin with. Secondly, being in a pro-business-travel meeting culture would ultimately make one more likely to believe they enjoy business travel, as has been argued previously (Bentley, Bloomfield, Davidai, & Ferguson, 2016; Mueller, 2010). The researcher compared the responses to this question against the variable “remote meeting” and found that they were not significantly correlated (see Figure 6), Pearson’s product-moment correlation  $R = 0.062$ , 95% CI =  $-0.133 - 0.253$ ,  $t(102) = 0.626$ ,  $p = 0.533$ . Enjoyment of business travel and a preference for videoconferencing are two separate constructs.



**Figure 6. Responses to questions about meeting culture.**

The interviews gave some further light into this disconnect. It was said that better sharing of the information on how, where, who, and what for, business travel is occurring, would mean that the travel can be consolidated as smart travel and reduce the amount of unnecessary travelling. A problem with this is that people might not be willing to share all the intentions of business travelling. An additional aspect to consider is that training to use appropriate technology is required to make people use them. If the videoconferencing equipment were advanced, secure, and well supported then this would reduce travel for business. Given COVID-19 standards are emerging and gaining broader support in this area (Kagan, Alpert, & Fire, 2020; Weil & Murugesan, 2020).

For the corporation, interviewees found several benefits for travel. These included: understanding the local market, interaction with affiliates, motivation, better results, build relationships, business growth, generate more business, and trust building. It allows people to build up relationships, make decisions quicker, and avoid the infuriating ‘ping-pong messaging’ often seen in remote communication. Business interactions involve a myriad of nonverbal cues (including body language) and therefore face to face meetings have the advantage of capitalizing on that. Yet for the individual engaging in business travel, the free discussion was predominantly negative. It was voiced that traveling for business is exhausting and that it is not beneficial for everyone; the load on businesspeople with families was mentioned several times, as was health.

### Corporate social responsibility

**Ha(5), “as corporate social responsibilities policies linked to environmental awareness (from the corporate) increases, business travel decreases”.**

The survey asked the following question directly:

- Q19) If corporations pursued pro-environment corporate social responsibility policies, would business travel increase or decrease?

Of 102 responses to that question, 93 (91%) responded that business travel would decrease in such a situation, and 9 (9%) responded that it would increase. Therefore, 91% of the respondents endorsed Ha(5) in the hypothetical. A similar result was achieved in the interviews – 14 of the 15 respondents (93%) endorsed the question.

One of the interviewees indicated that if pro-environment policies were implemented, travel for business would be reduced in the short term only; the corporation would need to keep investing in a pro-environment program. To succeed, it would need to be implemented and embedded as part of the culture of the corporation. Another respondent said that if a company was environmentally friendly with the usage of paper, water waste, recycling, etc., then it must also consider the impact of business travel on global warming. Physically travelling for business purposes needs to be seen not as purely a sunk cost in travel expenditure. It must be measured in terms of environmental impact as part of the values of the corporation. Without a quantified measure such as that, pro-environment policies would tend to be unsustainable in the long run. These kinds of policies only work when supported and believed in by senior leadership.

The interview brought out an important point regarding CSR policy. Only four of the 15 interviewees knew that they did already have a policy in place. Of these, only two of the four said the policy referred to travel for business, one said the environment, and the other to neither of them. One of them indicated that the company at the focus of the company’s own case study is moving from Scope 2 up to Scope 3. Scope 2 are indirect emissions from the generation of purchased energy (Greenhouse Gas Protocol Corporate Standard (GHGPCS) Value Chain Emission) whereas Scope 3 emissions include all indirect emissions that occur in the value chain of the reporting company, including both upstream and downstream emissions. All four belonged to the more senior group of employees interviewed.

Four of the other interviewees (27%) replied that the company did not have a CSR policy. Seven did not know. Therefore, it can be assumed that related internal information is not distributed in a clear and homogeneous manner within the business for all employees. It would seem evident that internal communications are an area for the business to focus upon in the future. Other literature indicates that this finding is far from unusual (Yue, Men, & Ferguson, 2020), but given comments above about the importance of communication from senior leadership to embed pro-environment policies, it is of note.

It is also worth noting that travel policies were in place within the company to control expenditure, hotel grade selection, car hire price range, weekend allowances, flight price range (related to business class, economy, or premium economy) depending on the length of the flight, etc., but not related to any environmental concerns or CSR. Again, this is far from unusual.

### Additional conclusion – relationship between environmental knowledge, and willingness to pay green tax

There were three items on the questionnaire regarding environmental awareness:

- 1) “I understand the greenhouse effect, its causes, and its consequences”;
- 2) “I understand the greenhouse gas emissions caused by an aircraft”; and
- 3) “I understand the consequences of the global warming”.

Responses to these three items were correlated with responses on the item “I am willing to pay more, as a corporation, when purchasing pollution products and services, through “green taxes”.” The research analyzed the relationship between these knowledge-based variables and willingness to pay both corporate and individual green tax (see [Table 5](#)).

Unsurprisingly, the three questions about environmental awareness were highly positively correlated with one another, with *R* values ranging from 0.75 to 0.89. The correlation with willingness to pay corporate green tax were also positive, and statistically significant, with *R* values of 0.23, 0.26, and 0.37 (see [Table 6](#)).

**Table 5. *R* values for correlations between self-reported environmental awareness and willingness to pay corporate green tax.**

Greenhouse effect		0.89	0.75	0.23
Aircraft emissions	0.89		0.75	0.26
Global warming	0.75	0.75		0.37
Corp green tax	0.23	0.26	0.37	
	Greenhouse effect	Aircraft emissions	Global warming	Corp green tax

**Table 6. *R* values for correlations between self-reported “environmental awareness” and “willingness to pay individual green tax”.**

Greenhouse effect		0.89	0.75	0.26
Aircraft emissions	0.89		0.75	0.3
Global warming	0.75	0.75		0.31
Indiv green tax	0.26	0.3	0.31	
	Greenhouse effect	Aircraft emissions	Global warming	Indiv green tax

The correlations with “willingness to pay individual green tax” were also positive, and statistically significant, with *R* values of 0.26, 0.30, and 0.31.

## Discussion

While business travel is a global issue, many of the cultural aspects discussed above have a local element. The study was focused upon the Zurich airport area in Switzerland, a country which is renowned for its environmental awareness. It may be that in other geographical regions, different results would be found which would add to the body of knowledge regarding the relationship between the major constructs of the study.

Perhaps more significantly, the pandemic of COVID-19 has placed a chronological limitation on this study, and indeed any recently conducted study regarding business travel (along with many other aspects of life). While the environmental imperative has not changed, many other influences on business travel and the corporate culture around it have altered markedly since the research was carried out. Therefore, this study will provide a crucial point of comparison for later work looking at the same topic: a clear ‘before’ point to assess the impact of COVID-19 on business travel habits and opinions.

If the culture of a corporation is pro-business travel, one might expect more travel will be taken and less videoconferencing or remote meetings will be arranged. This is justified by those corporations based on business growth, which as this research has shown, is considered to be facilitated by face-to-face meetings, particularly in the early stages of many business relationships. It has been demonstrated that physical co-presence is important for building trust quickly (Castells, 2010; Faulconbridge, Beaverstock, Derudder, & Witlox, 2009; Lo *et al.*, 2013), as was reported by the interviewees with reference to virtual teams above.

The interviewees had several inputs of value for a discussion of broader corporate culture:

- Need for CSR policies embedding environment and business travel.
- Sustainability to be part the corporate values.
- Executives to be role models to make the message stronger.
- Internal communication improvement. & clearer strategy/guidance.
- Practice and recognition to become part of the company culture.
- Allocation of a measuring manager (KPI).
- CO<sub>2</sub> emissions monitoring and measuring.
- Willingness to pay for CO<sub>2</sub> emissions (green taxes)
- In the job description, the travel percentage needs to be defined and indicate how to be measured.
- To be successful developing a remote team it is key the sense of belonging and being together developing trust and relationship.
- Increasing ICT (information and communications technology) tools and training for optimal usage.
- Paying for CO<sub>2</sub> emissions.
- The use of electrical cars as a company cars policy.
- Smart traveling awareness and implementation – consolidation.
- Definition of electrical cars as a company car.
- Legal regulations from the local authorities.



- Clearer strategy and corporate guidance.
- General reduction of business travel.
- To be always traveling would be a disadvantage to the organization and subsequently, balance is the goal for the employee and corporate prosperity.

The overriding sentiment was that these factors must be embedded into business culture. COVID-19 has undoubtedly provided the environment a break from air and noise pollution, which is notable from datasets in the public domain. The pandemic has also done plenty to illustrate just how much people can change their behaviors, when they are highly motivated or forced to do so. Taking up some of the issues listed above would enable corporations to facilitate both a business culture that contributes positively to social and environmental issues, and which takes care of its employees. Traveling for business is hard on the body mentally and physically, as well as time consuming (Bunn & Johnson, 2019; Mäkelä & Kinnunen, 2018). Therefore, it is sensible to conclude that videoconferencing should be used more where the downsides of travel are not offset by significant growth probabilities. There is significant relationship between business growth and business travel as face-to-face meetings are essential to build trust and relationships. However, travel can be significantly reduced, by more than 50% as indicated the interviewee 2, and depending on the purpose of the meeting, it may not be necessary, for instance for standard topics (Bripi, 2019). In matrix organizations once a year face to face meeting is sufficient to run virtual teams (Oertig and Buergi, 2006).

The case study found the willingness to pay both corporate and individual green taxes was positive and statistically significant. Further replication of the study would be desired to conclusively determine if these significant values could be generalized beyond the study population. Particularly so as Switzerland is renowned for its environmental awareness, which may make the population atypical on a European, and indeed global, level. Nevertheless, the results of the study add to a body of evidence that there is willingness to pay green taxation if the Swiss government were to implement it (Bernhard, 2020; Maxim, Zander, & Patuelli, 2019).

Additionally, it is evident that corporate communication on environmental issues is currently suboptimal. The case study demonstrated that even in an organization which is making positive moves towards Scope-3 emissions considerations, the communication of that desire within the company, was lacking. A notable absence from the interviews conducted during the case study, were the United Nations 2030 Sustainable Development Goals, which went entirely un-mentioned by participants. Government policies must develop mechanisms to highlight this when implementing CSR regulations (Rela *et al.*, 2020; Pinzone *et al.*, 2019).

With COVID-19 providing a push towards the utilization of videoconferencing systems, many individuals and corporations are being forced to develop the skillsets needed to make best use of technology. Companies are investing in appropriately secure videoconferencing systems, server, and broadband technologies. Will restrictions on travel be a long-term part of life? Will businesses make the conscious choice to embrace virtual communication where it is most appropriate? Or will business travel return to something like the pre-COVID normal, given time? Fundamental questions like this remain unresolved. Further research will thus be essential to assess the longer-term implications of COVID-19 in this area.

## Data availability

### Underlying data

UK Data Service: Environmental Perception of Global Business Travel by Swiss Companies in the Zurich Airport Area, 2019-2020. <https://doi.org/10.5255/UKDA-SN-854930> (Echeverria-Arrondo & Wolfs, 2021).

This project contains the following underlying data:

- Survey individual raw data.xlsx
- Survey master data from Qualtrics.csv
- Case study interview results overview.xlsx
- Case study interview transcripts.pdf

## Extended data

UK Data Service: Environmental Perception of Global Business Travel by Swiss Companies in the Zurich Airport Area, 2019-2020. <https://doi.org/10.5255/UKDA-SN-854930> (Echeverria-Arrondo & Wolfs, 2021).

This project contains the following extended data:

- Case study interview consent form.pdf
- Survey questionnaire in English and German.pdf
- Survey report from Qualtrics 2019.pdf
- Case study interview schedule August - September 2019.pdf
- Case study introduction letter.pdf
- Non-disclosure Agreement for the case study.pdf
- Qualitative questionnaire - case study.pdf
- Chapter 4 from the dissertation - quantitative - research findings and discussion.pdf
- Chapter 5 from the dissertation - qualitative - case study swiss pharma company.pdf

Data are available under the terms of the [Creative Commons Attribution 4.0 International license](#) (CC-BY 4.0).

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