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Business mobility survey École polytechnique fédérale de Lausanne - EPFL

Final report

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Lausanne, January 2019

Table des matières

1 Introduction 1

1.1 Description of the survey 1

1.2 Summary of results 2

2 Survey results 4

2.1 Behaviour and organisation of business travels 4

2.1.1 Frequency, mode of transport and destination 4

2.1.2 Reasons for travel and organisation 7

2.1.3 Choice of mode of transport 8

2.2 Motivations, decisions and impacts of business travels 9

2.2.1 Institutional motivations 9

2.2.2 Individual motivations 10

2.2.3 The impact of travel 10

2.2.4 Factors reducing the willingness to travel 11

2.2.5 Wilingness to increase or reduce business travel 12

2.3 University culture, environmental impact and CO_2 emissions mitigation 12

2.3.1 EPFL and the environment 13

2.3.2 Environmental attitudes 14

2.3.3 Substituting flying by train travel 15

2.4 Alternatives to travel, virtual communication and technological possibilities 17

2.4.1 Setting and frequency 17

2.4.2 A tool mostly used for project meetings 17

2.4.3 Limited awareness of EPFL dedicated videoconference rooms 18

2.4.4 Ways to increase the use of videoconferencing rooms 18

2.4.5 Factors impeding the use of videoconferences 19

2.4.6 Willingness to substitute traveling with videoconference 20

1 Introduction

1.1 Description of the survey

The EPFL Senior Management, represented by the Vice-presidency for *Human Resources and Operations (Sustainable Campus)*, commissioned FORS to conduct a survey on business mobility at EPFL. The objective was to better understand the travel behaviour of academic staff, the motivations and the academic culture around travelling. The results of this study aim at developing, within the framework of a participatory process, a strategy to reduce the carbon footprint of EPFL by reducing business travel, especially by plane.

The questionnaire, available in English and French and administered using Qualtrics, included 39 questions conceptualized in collaboration with the *Sustainable Campus* team and a working group at EPFL representing different academic researchers. The questionnaire focuses on seven main blocks: “Behaviour and organisation”; “University and personal culture”; “Motivations, expectations and decisions”; “Impact on professional career”; “Impact on family life, social life and health”; “Alternative modes: audio and videoconferencing”, and “Reducing CO_2 emissions”.

The invitation to participate in the survey was sent on 4 November 2018 by email to 4,020 EPFL research staff members[1]. After two reminders and a field period of four weeks ending on 3 December 2018, 1,491 questionnaires were started, 1,130 of them fully completed. Based on these fully completed questionnaires, the participation reached 28.1 percent, which is a very good response rate for this type of survey and ensures a representative sample for the analyses in this report.

[1] The list of emails of the interviewees was provided by EPFL’s Human Resource and Operations Department.

1.2 Summary of results

- Almost three quarters of respondents (74%) reported having travelled for work at least once in the last twelve months. Fifteen percent travelled more than five times and five percent more than ten times.
- Professors clearly stand out in the number of trips realized with an average of 10.4 times a year. Doctoral assistants and deputies travel the least (1.8 and 1.4, resp.).
- A quarter of trips were to a destination outside Europe and flying was by far the most common mode of transport (71%).
- The most common reason for travel is to speak at a conference, followed by participating in a conference and project meetings.
- The first source of motivation when choosing a means of transportation is the length of journey and timetable: 82 percent choose it as their first or second motivation. Environmental concerns are low on the list, but non-negligible: 15 percent rank it as first or second, on par with comfort. However, this proportion drops to only 7 percent for professors.
- Institutional factors have a strong influence on travelling: 64 percent reported physical attendance at events being very or extremely important. SB, IC and SV stand out in this respect, as well as in seeing travelling as an important factor in the evaluation of academic performances. Professors are the most affected by institutional pressures to travel.
- The possibility to meet peers, networking possibilities, and building up of prestige and reputation are the strongest individual motivators for travel (77%, 57% and 49%, resp.).
- Overall, 80 percent state that business travels have a strong to a very strong impact in increasing the amount of exchanges with peers and 56 percent state that it helps increasing prestige and reputation.
- Travel has a clear impact on personal life: the more frequently people travel, the more they feel they are neglecting their family or friends. The same linear trend, albeit slightly weaker, holds for feeling stressed and tired.
- More than any other factor, the current frequency of travel dictates whether a person would like to increase or decrease their number of business trips: The more a person travels, the more they wish for a reduction.
- There appears to be a general willingness for the EPFL to increase its efforts regarding the environment. Some resistance does exist however, especially among those who travel often by plane.

- The most effective measure to increase the attractivity of train travel is making the prices more competitive with subventions, taxes, or negotiated deals.
- The maximum duration of door-to-door journey respondents are willing to travel by train is 7 hours on average. Respondents born outside Europe are less willing to carry out long train journeys than those born in Europe. Respondents born in Switzerland are the most open to train travel.
- The private office is the most frequent setting for videoconferencing, with 33 percent of respondents using it at least once a month. Dedicated EPFL videoconference rooms are the least used and 76 percent report never using them. Furthermore, only 38 percent of participants know at least one location and/or how to book videoconference rooms and 30 percent did not know they existed at all.
- The overwhelming majority of audio/videoconference calls are used for project meetings, 40 percent using them for this purpose at least once a month.
- The main factor hindering the use of videoconference is that it provides fewer possibilities of informal exchanges.
- There is a moderate overall willingness to substitute travels with videoconferences, with the average situated slightly over the middle category of the zero to ten scale (mean of 5.6).

2 Survey results

Throughout the report, we first describe overall trends, then analyse the different aspects focusing on differences among status and school and finally, when of interest, among sociodemographic variables such as gender, age, origin, or living arrangement. The status is divided into the categories of "*Doctoral assistant*", "*Scientific collaborator*" (researcher, consultant and councillor), *"Senior Scientist",* "*Deputy*", and "*Professor*" (full, associate, adjunct, tenure track assistant, host and emeritus professor). The schools included in the analysis are "*Architecture, Civil and Environmental Engineering*" (ENAC), "*Basic Sciences*" (SB), "*Engineering*" (STI), "*Computer and Communication Sciences*" (IC), "*Life Sciences*" (SV), the College of "*Management of Technology*" (CDM) and "*Humanities*" (CDH), as well as the centers of "*Education/Research/Innovation and other*" (ENT).

For these two variables, it is important to take into account that the sample size of some categories is small (under 20), particularly for deputies as well as CDM, CDH, and ENT. Therefore, results mentioning these categories need to be interpreted with care, but they do inform us of trends.

2.1 Behaviour and organisation of business travels

The first part of the analysis aims at getting an overview of the travel behaviour and organisation of the members of EPFL's academic staff. This information gives us first indications regarding the interrelation between business travels and the institutional and personal reasons of travelling in academia.

2.1.1 Frequency, mode of transport and destination

First of all, 26 percent of respondents indicate not having travelled abroad for work during the last 12 months. For 83 percent of non-travellers, this was simply because there was no necessity for doing so. Most (59%) travelled between one and five times, while 15 percent travelled more than five times and 5 percent over ten times. Professors travelled clearly the most (10.4 times/year), followed by senior scientists and scientific collaborators (3.4 and 2.6 times/year, resp.), whereas doctoral assistants and deputies travelled the least (1.8 and 1.4 times/year, resp.).

More experienced academic staff also tends to travel more frequently, irrespective of status. Those with more than 10 years of experience travelled approximatively six times per year (5.6) compared to only two times (1.8) for those with up to 5 years of experience. Gender, occupation rate, or school have no significant impact on overall travel behaviour.

Table 1: Frequency of travel during the last 12 months (n=1139)

Number of trips	**Proportion**
0 trips	26%
1 trip	20%
2 trips	16%
3 trips	11%
4 to 5 trips	12%
6 to 10 trips	10%
over 10 trips	5%

Focusing on destination, business travels within Europe are three times more frequent than those outside Europe (2.4 and 0.7 times/year, resp.). Among schools (Figure 1), the staff from CDH, closely followed by that from CDM, tends to travel slightly more, with an average of approximatively four trips within Europe (3.8 and 3.7 times/year, resp.), followed by STI with an average of 2.7. Traveling outside Europe is most frequent in STI and IC (0.9 times/year) and lowest in ENAC and ENT (0.4 times/year).

Traveling is mostly done by airplane, regardless of the destination (Figure 2). CDH is the only school that tends to use train more than plane for business travel (2.7 compared to 2.3 times/year). In comparison, the car plays a minor role in business travel with a frequency of use of less than 0.2 times/year among all schools. ENT recorded a slightly higher result (0.6 times/year). Car travel is mostly done using private car (47%) with car sharing only accounting for 9 percent of total car travel.

Figure 1: Average number of trips by school within and outside Europe[2]

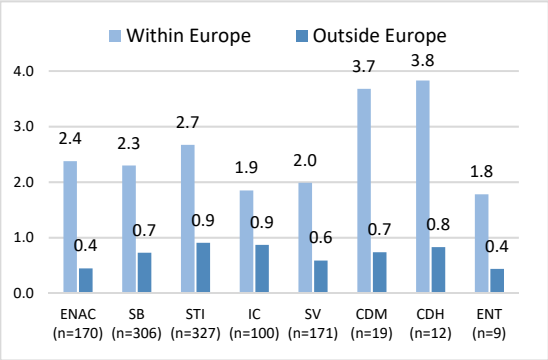
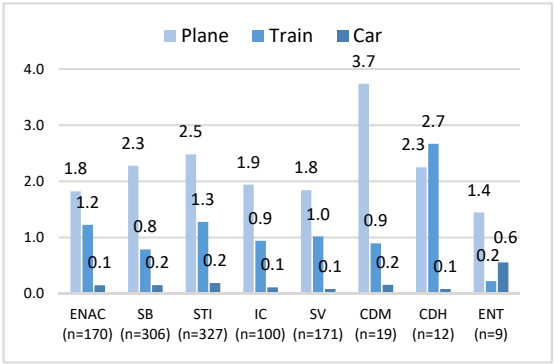


Figure 2: Average number of trips by school by transport mode



Professors clearly distinguish themselves, with an average of 2.7 travels outside Europe. Furthermore, 7.7 of their 10.4 business travels are done by airplane (Figure 3) and one flight per year is booked as a business or first class flight (Figure 4). Professors are practically the only ones to book this type of flight. The two main reasons given for the class upgrade is the possibility to rest and work during flight (90% each). Even though professors are the most frequent users of train, proportionally they use this option the least given their high overall travel frequency. Far behind professors, senior scientists register an average of 2.2 business trips by airplane, closely followed by scientific collaborators (1.8). The use of airplane is also correlated with working experience. People with more than 10 years of experience travel in average four times more than those with up to 5 years of experience.

Figure 3: Average number of trips by status and mode of transport

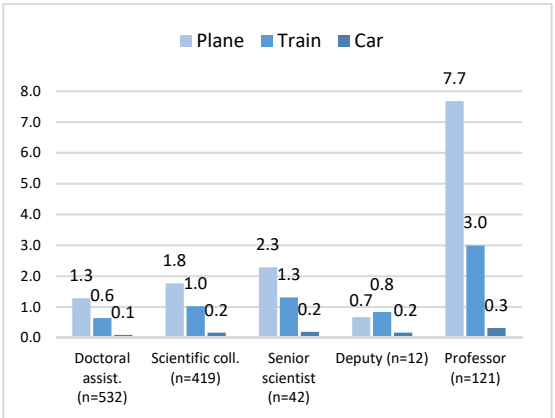
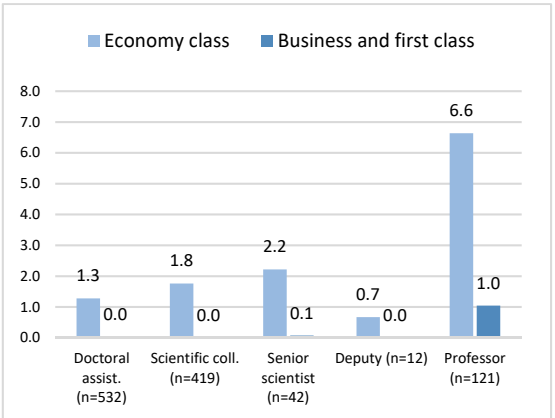


Figure 4: Average number of trips by status and type of flight

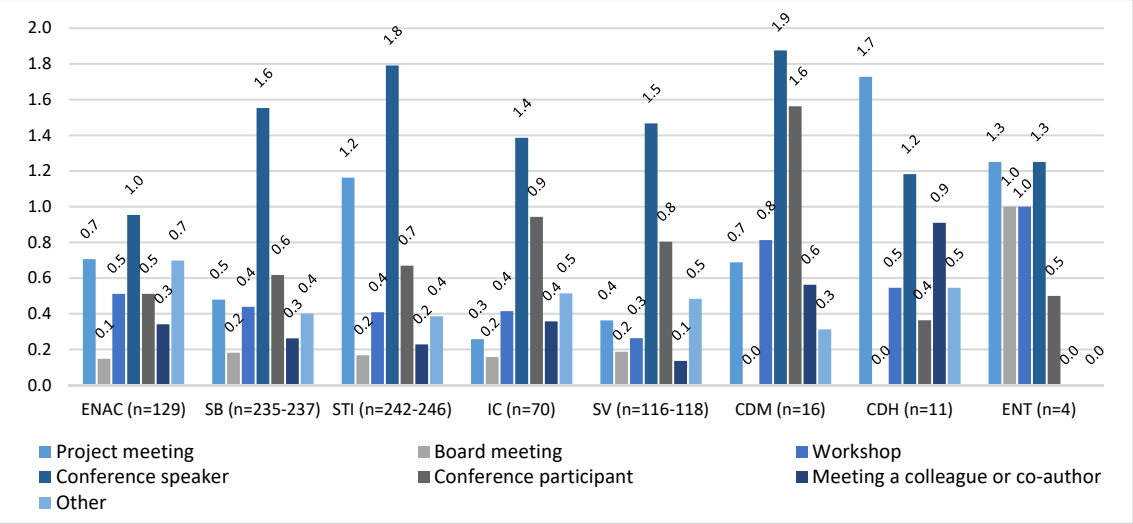


[2] All graphs mentionning an average number of trips refer to the last 12 months.

2.1.2 Reasons for travel and organisation

EPFL's academic staff travels mainly as conference speakers, with an average of 1.5 times per year (Figure 5). This is the case for all the schools except for CDH, where the main reason for travel are project meetings (1.7 times/year). Travelling as a conference participant is the second reason for SB, IC, SV and CDM, whereas for ENAC, STI and ENT project meetings come second.

Figure 5: Reason to travel by schools



In general terms, EPFL's academic staff have a fairly strong decision-making ability[3]. Indeed, for only 8 percent of them, it is their superior(s) alone who decide(s) whether they should travel for work. Taking a closer look at status, we observe that this 8 percent only affects doctoral assistants and scientific collaborators (13% and 6%, resp.).

Most business trips are done by people's own initiative. The exception being professors, where 8.6 out of 10.4 trips follow an invitation. There are no differences by school.

Travel arrangements are organised equitably between administrative staff and academic staff themselves (52% and 47%, resp.). External hosts organise only a marginal proportion of travels. This proportion remains stable within the schools except for SV and SB, where the administrative staff is more involved (62% and 58%, resp.).

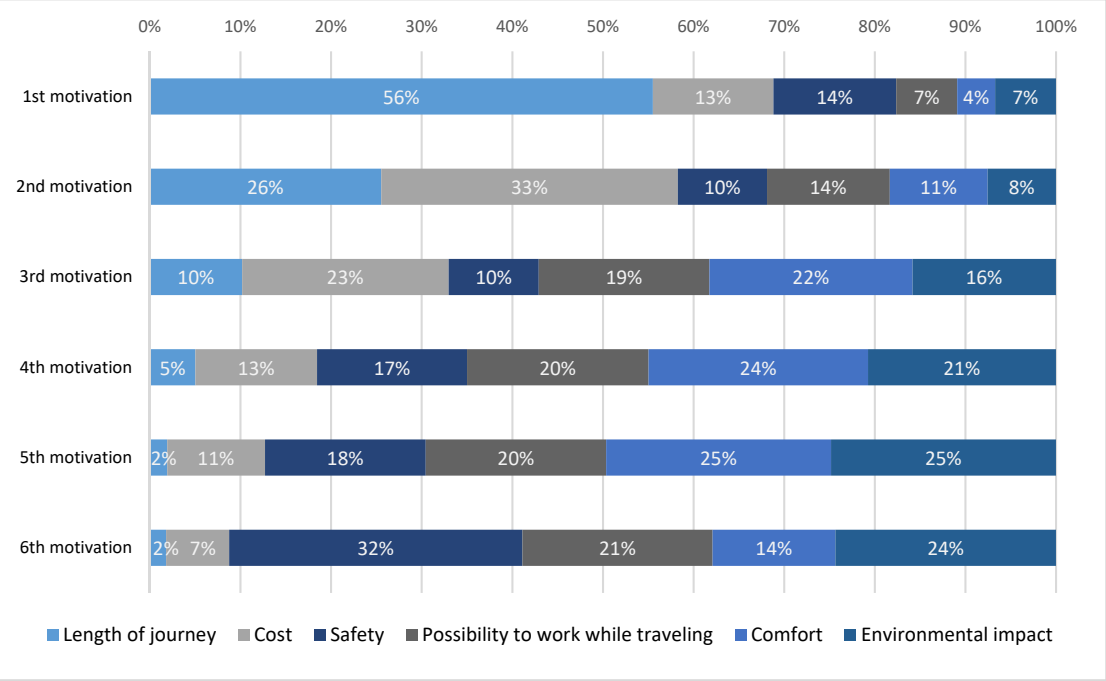
[3] This concept comes from the question: "Between you and your superior(s), who decides whether you should travel for work (when not mandatory for external reasons)?". It has been created by dividing the answer categories into two groups. "Me, mostly me, both equally and mostly my superior(s)" have been defined as having a decision-making ability and the ones who answered "my superior(s)" have been defined as staff without this ability.

Around 20 percent of respondents indicate they never booked a business trip through EPFL travel agency (CWT). Deputies use CWT the most, 78% state using it most of the time or always. They are followed by professors (69%) and senior scientists (60%). Moreover, staff aged 40 and over tend to be more frequent users of CWT.

2.1.3 Choice of mode of transport

Respondents were also asked to rank six aspects in order of importance when choosing a means of transportation (Figure 6). The first source of motivation for more than half of respondents was the length of journey and timetable and for 81 percent it was either first or second. Cost was either the first or second reason for 46 percent. Environmental considerations are not high on the list, but are nevertheless given as the first or second motivation by 14 percent of respondents, on part with comfort. The environment has a larger importance in CDH and ENA (30% and 22%, resp.). Doctoral students and scientific collaborators also tend to rank this aspect higher (17% and 15%, resp.) than professors, among whom only 7 percent ranked the environment first or second. Professors stand out in particular regarding the importance they put on being able to work while travelling. More than half of them (53%) ranking it as first or second reason.

Figure 6: Aspects motivating choice of transportation



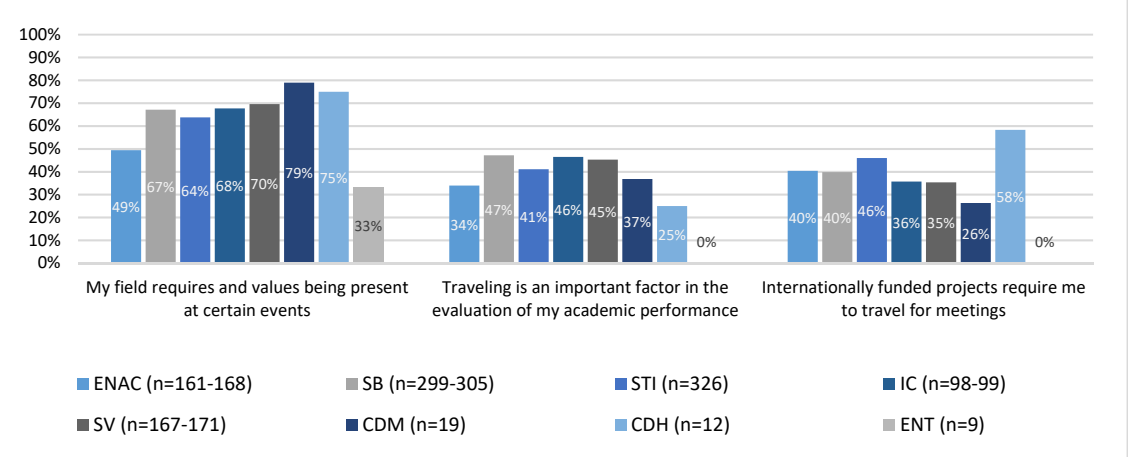
2.2 Motivations, decisions and impacts of business travels

The second part of the analysis aims at understanding to what extent institutional and personal factors determine the propensity of academic staff to travel for work. Is there any dilemma between scientific career, personal life and environmental considerations when travelling? What impacts those travels have on family life, social life and health? The information, linked with institution and sociodemographic variables, helps us better understand the interrelation between motivations, decisions and impacts of travelling in academia.

2.2.1 Institutional motivations

First of all, institutional factors at EPFL clearly have a strong influence on travelling (Figure 7). Being present at certain events is the most important institutional factor pushing the staff to travel. Indeed, almost two thirds of respondents reported that physical attendance is very important or extremely important (64%) and only a small minority thinks that it is not at all important or slightly important (11%). Opinions regarding the importance of business travel on the evaluation of academic performance and the obligation to travel for internationally funded projects are on the other hand more balanced. Looking at schools, SB, IC and SV seem to require and emphasise physical attendance at events abroad more than others (67%, 68% and 70% very important to extremely important, resp.) as well as travelling as an important factor in the evaluation of academic performances (47%, 46%, 45%, resp.). In contrast, internationally funded projects seem to be more important for STI and CDH than other schools (46% and 58%, resp.). Professors are particularly sensitive to the pressure from their field to travel and be present at events as well as stating that traveling is important in the evaluation of their performance (88% and 57%, resp.). They, together with deputies and senior scientists, also need to travel more for internationally funded projects.

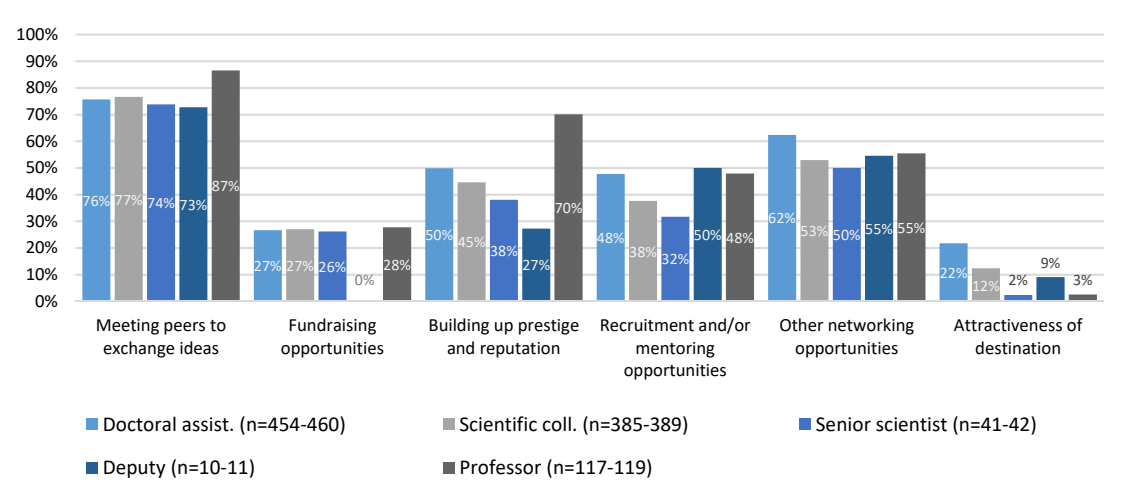
Figure 7: Institutional factors – proportion of "very important" and "extremely important"



2.2.2 Individual motivations

Among respondents with decision-making ability, the main individual motivations to travel for work are very similar between categories of academic status (Figure 8). The individual factor with the highest degree of importance is the possibility of meeting peers to exchange ideas (77% of very important to extremely important), followed by other networking opportunities (57%) and building up prestige and reputation (49%). For deputies, this third personal factor is substituted by recruitment and/or mentoring opportunities (50%) and for professors, building up prestige and reputation is more important than other networking opportunities (70% and 55%, resp.). Overall, fundraising opportunities or the attractiveness of the destination are not key priorities in the decision to travel (27% and 15%, resp.).

Figure 8: Personal factors – proportion of "very important" and "extremely important"

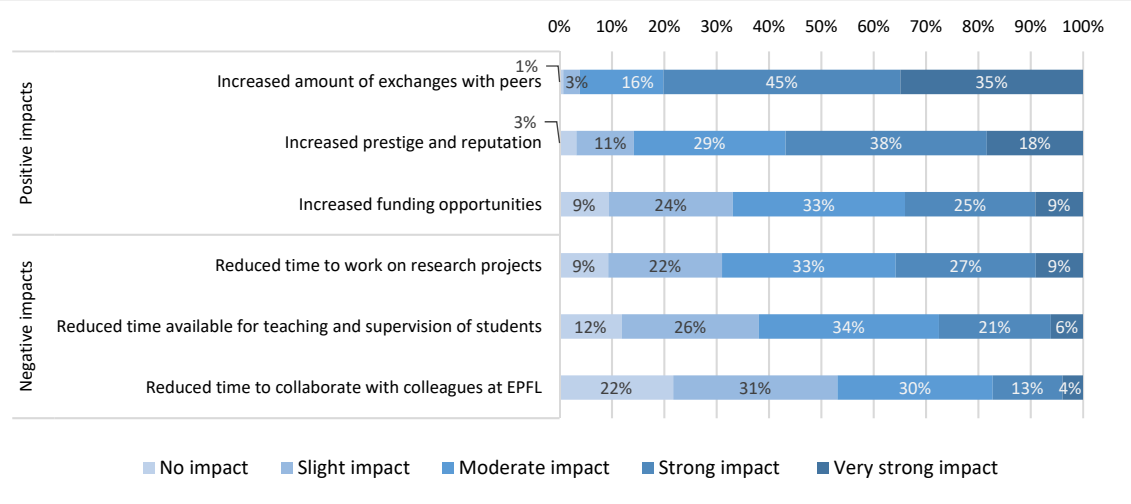


2.2.3 The impact of travel

After looking at what motivates people to travel, we now turn to the perceived impact of traveling (Figure 9). The majority of academic staff feels travelling has a strong to a very strong impact in increasing the amount of exchanges with peers (80%) and helps increasing prestige and reputation (56%), mirroring the expectations discussed above quite well. Although fundraising opportunities are not deemed an important motivation to travel, a third of respondents do feel benefits regarding this aspect.

Regarding negative impacts of travelling on work-related activities, 36 percent of participants report a strong to very strong impact on time available for research projects, while time for teaching and supervision of students or time available to collaborate with colleagues at EPFL are less impacted (27% and 17%, resp.). Overall, professors tend to rate positive impacts of travel stronger and negative impacts weaker compared to other staff members.

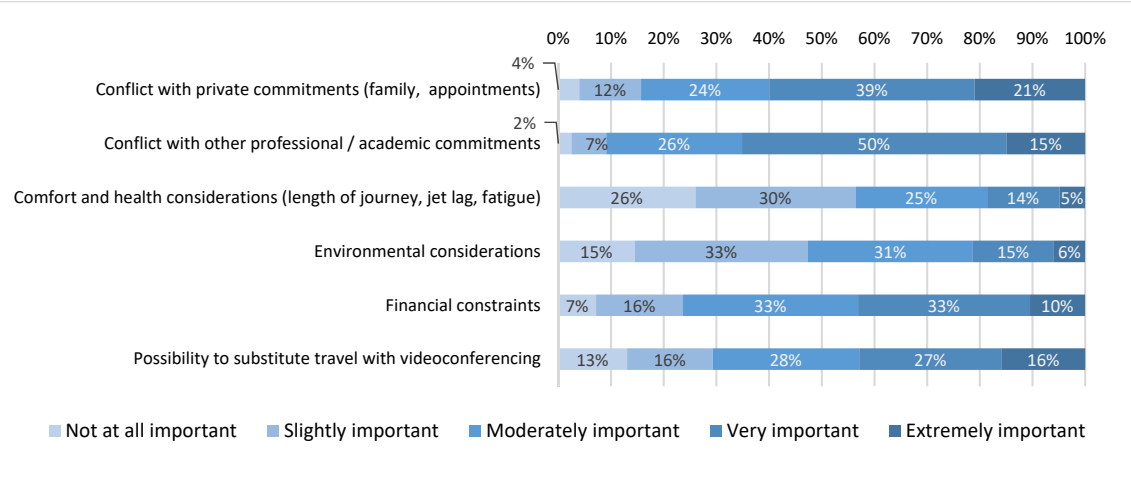
Figure 9: Positive and negative impacts of business travel



2.2.4 Factors reducing the willingness to travel

Respondents were also asked about factors that could lead them not to travel despite an interest from a professional standpoint (Figure 10). The most important factor is a potential conflict with other professional/academic commitments (65% of very important to extremely important), followed by a conflict with private commitments (60%). Only 27 percent of deputies indicated this factor to be an important one, clearly separating them from the rest. Somewhat surprisingly, comfort and health considerations (length of journey, jet lag, fatigue) is not seen as a major issue in general. Environmental considerations, financial constraints and the possibility to substitute travel with videoconferencing failed to reach a majority (21%, 43%, and 43%, resp.). Finally, we observe that respondents who fly less frequently also report not traveling for environmental considerations more often, showing a potentially concrete effect of individuals consciously limiting their air travel.

Figure 10: Factors influencing the decision not to travel



This pattern does not hold true for the willingness to substitute travel with videoconferencing however, but there are differences between schools. Indeed, half of the academic staff coming from ENAC and CDH would be open to travel less if there would be a substitution to travel by videoconferencing (51% and 50%, resp.), whereas the number is 36 percent for SB.

Around half of respondents agree that because of their work, they sometimes neglect their family/friends or feel stressed and tired (50% and 56%, resp.). The former concern is greater than average among professors (62%) and the latter on among doctoral assistants (58%). Moreover, women tend to report feeling stressed and tired because of work more often than men (63% and 52%, resp.). The impact is confirmed by the fact that the more people travel, the more they feel they are neglecting their family or friends. The same linear trend, albeit slightly weaker, concerns those feeling stressed and tired.

2.2.5 Wilingness to increase or reduce business travel

When respondents were asked if they would prefer to travel more or less for work than they currently do if this had no effect on their career, half reported they did not want to change the situation, whereas slightly more wanted to increase than decrease their amount of travel. This is however due to the large proportion of doctoral assistants in the sample who travel less frequently. One third of frequent travellers (at least 3 trips per year) agree they would rather reduce their business travels (31%), whereas almost half of non-travellers would want to travel more or much more (49%).

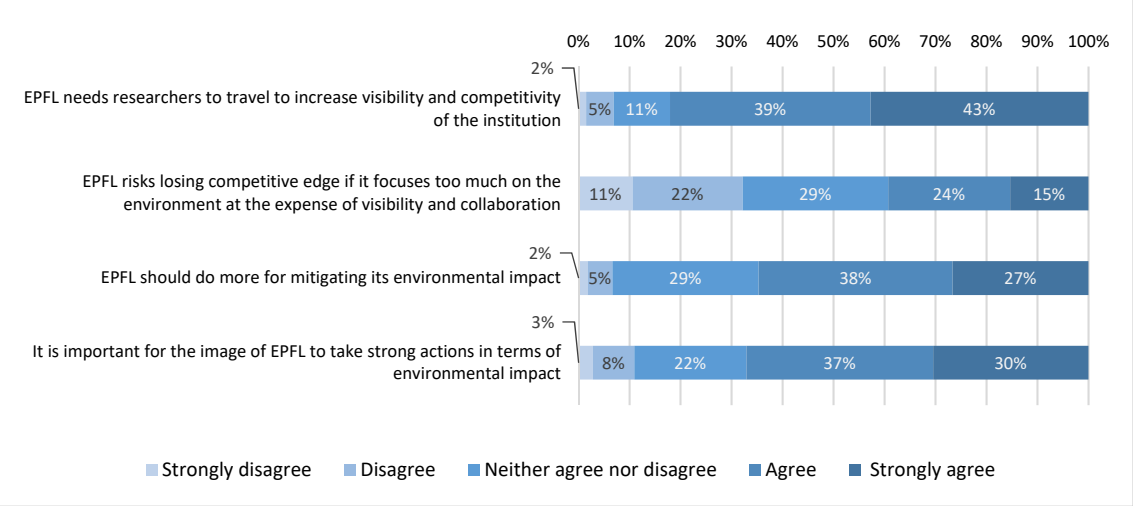
2.3 University culture, environmental impact and CO2 emissions mitigation

The third part of the analysis aims at knowing how EPFL academic staff positions itself on environmental issues and how they perceive EPFL's academic culture and its environmental impact. How sensitive are they regarding the state of the environment? How much are their views and behaviour regarding business travel guided by environmental awareness compared to academic performance and institutional requirements? What measures could be taken to increase the use of train as a more environmentally friendly alternative to flying?

2.3.1 EPFL and the environment

In the context of increased international collaboration in research and academia, CO_2 emissions from business travel comprise a significant proportion of EPFL's total carbon footprint. A dilemma between environmental protection and international collaboration exists indeed in academia worldwide[4]. Therefore, we asked a set of questions related to EPFL academic culture to see whether there is a drive for increased environmental measures within the EPFL research staff and how strong is the desire for status quo (Figure 11). The statement with the most agreement is that EPFL needs researchers to travel to increase visibility and competitivity of the institution, with which 82 percent of respondents agree. This proportion remains quite stable by status and school, except for a higher approval among professors and deputies (92% each) and a lower proportion for CDH and ENT (58% and 56%, resp.). However, although international exchanges are very important to respondents, a minority (39%) believes that EPFL risks losing competitive edge if it focuses too much on the environment at the expense of visibility and collaboration. Conversely, around two thirds of respondents agree that EPFL should do more for mitigating its environmental impact and that it is important for its image to take strong actions in terms of environmental impact (65% and 67%, resp.). There thus appears to be a general willingness for increased efforts and a change in academic culture towards more environmental awareness, even though some resistance exists, as well as a strong concern for the competitiveness of the institution.

Figure 11: Positioning of respondents on EPFL academic culture and the environment



[4] Tscherina Janisch, Prof. Dr. Lorenz Hilty, 2017. Changing university culture towards reduced air travel. Background Report for the 2017 Virtual Conference on University Air Miles Reduction. ETH Zürich.

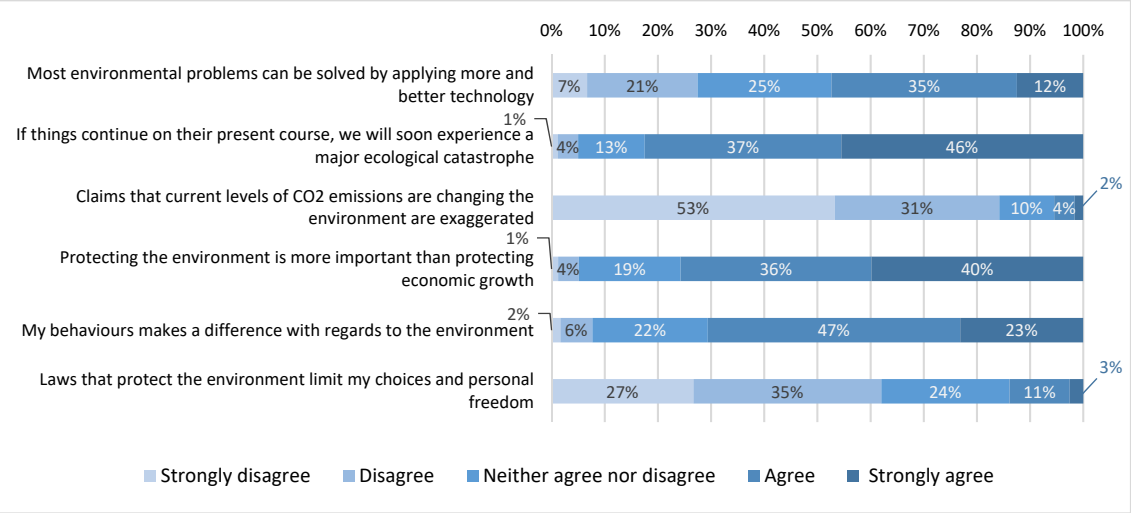
In addition, professors seem to have a stronger belief that competitivity is at odds with environmental protection. Indeed, 66 percent of them fear EPFL losing competitive edge if it focuses too much on the environment and only 46 percent agree that mitigating environmental impact is important for the image of EPFL. Secondly, those who travel more by plane are less in favour of EPFL focusing on the environment. Finally, there is a significant difference depending on the country of birth: Respondents born in Switzerland are more in favour of environmental actions compared to those born in other European countries and especially compared to those born outside Europe.

2.3.2 Environmental attitudes

In order to assess respondents' environmental attitudes in a more general fashion, we asked them to position themselves on various standard environmental questions (Figure 12). In general terms, we observe that a relatively large consensus among academic staff exists regarding the severity of the environmental issue. Overall, 82 percent agree that if things continue on their present course, we will soon experience a major ecological catastrophe 84 percent disagree with the statement that claims that current levels of CO_2 emissions are changing the environment are exaggerated. Seventy-six percent believe that protecting the environment is more important than economic growth and only 14 percent feel that laws protecting the environment limit their personal freedom. Although the general trend holds true for all schools, SV and CDH register the highest level of environmental awareness and concern, closely followed by CDM.

A relatively large proportion of EPFL academic staff agrees that most environmental problems can be solved by applying more and better technology (47% agree or strongly agree), which is to be expected in this population. They do however also believe that their behaviours make a difference with regards to the environment (70%). The majority thus agrees that changes in behaviour are also needed and that their own choices count. Staff from SB, STI and IC are those who most rely on technological solutions to solve environmental issues. It is also interesting to observe that frequent travellers (3 travels and more per year) tend to agree less with the statement that their behaviours make a difference. Finally, environmental awareness is correlated with age. Younger individuals, and especially the 30-39 category, are the most sensitive to environmental issues.

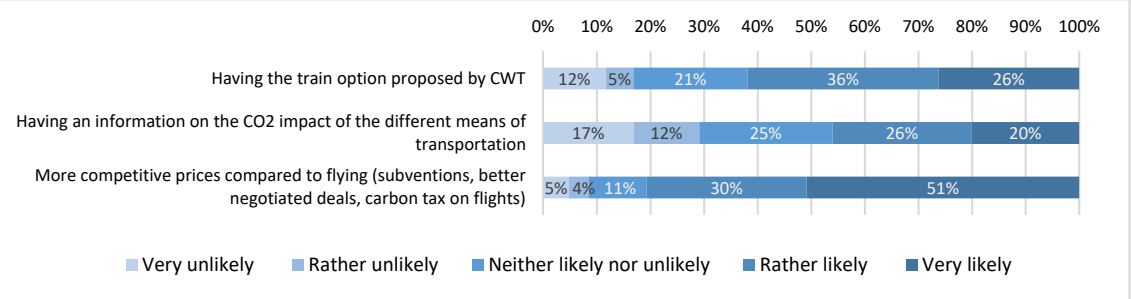
Figure 12: Opinions regarding the environment



2.3.3 Substituting flying by train travel

Respondents were also asked which measures would increase their likelihood of choosing the train option instead of flying (Figure 13). The measure that obtained the largest support was making the prices more competitive with subventions, taxes, or negotiated deals (81% considered it likely to affect their behaviour), followed by having the train option proposed by CWT (62%). The first measure can be categorized as a regulatory type and the latter as a possible change in enabling conditions[5]. The third measure, which can be categorized as a non-regulatory measure because of its information-related role, is the possibility to have information on the CO_2 impact of the different means of transportation. Although the majority did not believe this would be likely to affect their behaviour, 46 percent did feel it would, which makes it a perfectly viable measure.

Figure 13: Measures' likelihood to increase the use of train travel



[5] Tscherina Janisch, Prof. Dr. Lorenz Hilty, 2017. Changing university culture towards reduced air travel. Background Report for the 2017 Virtual Conference on University Air Miles Reduction. ETHZürich.

Deputies report being most likely to change their behaviour if the train option was proposed by CWT (67%). This is unsurprising, since they are the ones who most frequently use CWT services. Professors report being least potentially impacted by all three measures. This can be explained by their lesser overall willingness to reduce their environmental impact and the higher overall pressure to travel and stricter time constraints, as seen earlier. Doctoral assistants are the only ones to be over half to say they could be affected by the non-regulatory (information) measure. Among schools, this measure would likely be most effective at ENAC, SV and CDH (53%, 54% and 58%, resp.).

The maximum duration of door-to-door journey respondents are willing to travel by train is 7 hours on average. Women are slightly less willing to make long travels, with an average of 6.5 hours, compared to 7.2 hours for men. There is no significant impact of school, status, frequency of travel or age, but there is a country-related effect. Indeed, respondents born outside Europe are less willing to carry out long train journeys than those born in Europe and especially those born in Switzerland (6 hours, 7 hours and 7.8 hours, resp.). When looking at the relationship between university culture and environmental impact statements and the willingness for train travel, we observe that the more sensitive to environmental issues a respondent is, the more willing they are to travel by train. For instance, comparing those who agree with the statements below with those who are neutral or disagree, we find the following differences: "*EPFL should do more for mitigating its environmental impact*" (7.4 compared to 6.1 hours, resp.); "*It is important for the image of EPFL to take strong actions in terms of environmental impact*" (7.5 compared to 6 hours, resp.) and "*My behaviours make a difference with regards to the environment*" (7.1 compared to 6.5 hours, resp.). This points to the likelihood that increased environmental awareness leads to a greater substitution of flights by train.

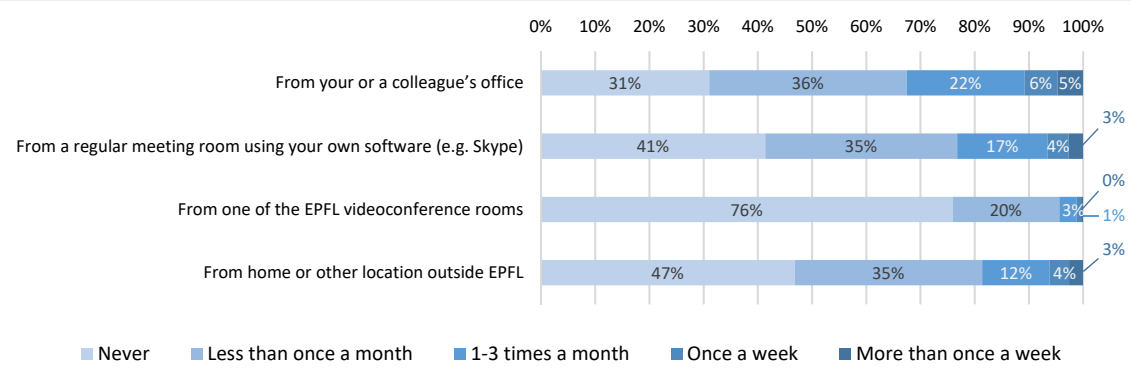
2.4 Alternatives to travel, virtual communication and technological possibilities

The fourth part of the analysis provides an overview of the use of virtual communication tools as an alternative to travel. EPFL staff were asked questions regarding their use of video and audio conference and the importance of factors encouraging or discouraging them to use this alternative to travel.

2.4.1 Setting and frequency

The private office (one's own or a colleague's) is the most frequent setting for audio or video conference with 33 percent of respondents using it at least once a month, followed by regular meeting rooms and locations outside EPFL (23% and 19%, resp.) (Figure 14). The least frequently used setting is the dedicated EPFL videoconference rooms, which are used at least once a month by only 4 percent of respondents. Seventy-six percent even report never using them at all. These tendencies remain similar across schools, except for CDH, where the proportion of respondents using private offices and regular meeting rooms at least once a month goes up to 64 and 67 percent respectively. In terms of status, professors use videoconference more frequently in every setting, whereas young respondents (18 to 29 years old) use videoconference less frequently.

Figure 14: Frequency of audio/videoconference call by setting



2.4.2 A tool mostly used for project meetings

The vast majority of audio/videoconferences are used for project meetings. A total of 84 percent of respondents using it at least once a year and 40 percent at least once a month. Less than one in four respondent uses videoconferences for reasons other than project meetings. Speaking at a conference through videoconference is rare, only 8 percent of participants reported having done so in the past year. Thesis defences, workshops, paper reviews, conferences as participant and board meetings through audio/videoconference, while rare, were still carried out at least once in the past year by

between 17 and 24 percent of respondents. CDH and IC staff conduct project meetings using audio/videoconference more frequently than other schools, 64 and 50 percent respectively reporting using it at least once a month. Professors on the other hand are the most frequent users of audio/videoconference for project meetings, 57 percent doing so at least once a month.

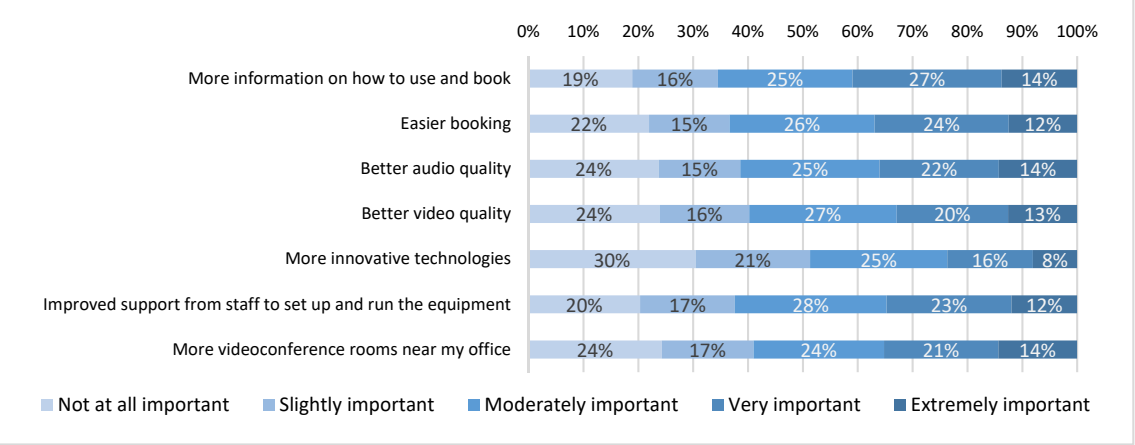
2.4.3 Limited awareness of EPFL dedicated videoconference rooms

In line with the low proportion of respondents using dedicated videoconference rooms, only 38 percent of them knew at least one location and/or how to book them and 30 percent did not know they existed at all. CDM and CDH staff were the least aware of their existence (53% and 50%, resp. were unaware). SV staff are the best informed with 48 percent knowing at least one location and/or how to book them. Doctoral assistants, followed by scientific collaborators are the least informed (39% and 31%, resp. were unaware), while professors, deputies and senior scientists are the best informed (76%, 75%, and 69%, resp. knowing a location and/or how to book them). Awareness also increases with age, mirroring the differences found by status.

2.4.4 Ways to increase the use of videoconferencing rooms

Regarding reasons that could increase the use of dedicated videoconferencing rooms, all factors are deemed to be very or extremely important by at least 20 percent of the participants. While the item "*more information on how to use and book"* was the most important factor and "*more innovative technologies"* the least important, the differences remain rather small. Interestingly, even if 62 percent of participants stated not knowing how to book videoconference rooms, the importance of having more information on how to use and book the rooms is not seen as more important than other factors. However, in line with results on the awareness of dedicated videoconference rooms, a greater proportion of doctoral assistants and scientific collaborators find this factor to be important. Furthermore, CDM and CDH have a greater proportion of their staff finding this factor to be important. Among other factors, namely "*easier booking", "better audio quality", "better video quality", "improved support from staff to set up and run the equipment"* and "*more videoconference rooms near my office"*, no particular results stand out.

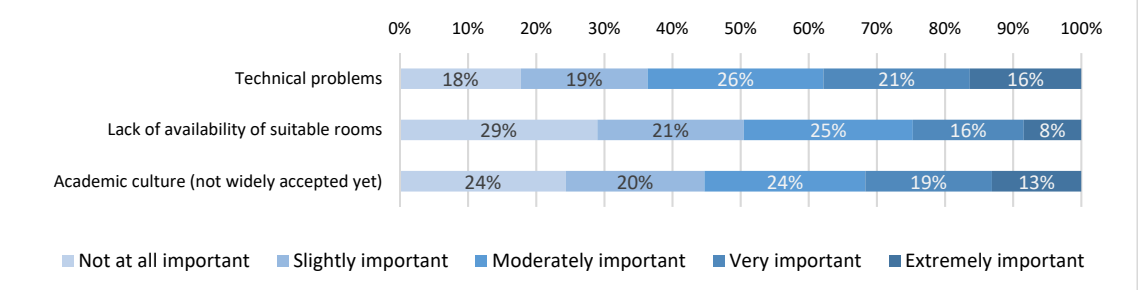
Figure 15: Importance of factors that might increase videoconference usage



2.4.5 Factors impeding the use of videoconferences

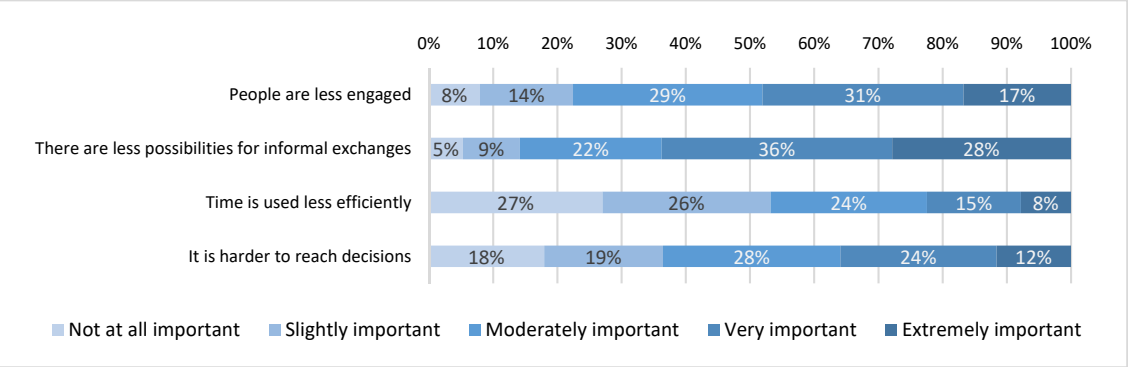
Regarding technical and cultural factors that hinder the use of videoconference in general, half or more of respondents found all three reasons to be at least moderately important (Figure 15). The most important aspect are technical issues, almost 40 percent of respondents finding them very or extremely important. In comparison to other statuses, professors find this aspect particularly important (47%). Amongst schools, STI and CDM staff seems to struggle more than others to find available and suitable rooms as they deemed this factor more important.

Figure 16: Importance of technical and cultural factors discouraging the use of videoconference



Overall, human factors seem to be more important in discouraging the use of videoconference compared to technical or cultural factors (Figure 16). The impression that videoconference provides fewer possibilities of informal exchanges is the most important factor, with 65 percent of participants rating it as very or extremely important. Furthermore, almost half of respondents find the fact that people are less engaged important. Among professors, this proportion goes up to 59 percent and the proportion increases even more among older age groups.

Figure 17: Importance of human factors discouraging the use of videoconference



2.4.6 Willingness to substitute traveling with videoconference

Regarding how willing people are to personally substitute their travels with videoconference, on a scale ranging from 0 *"not willing at all"* to 10 *"totally willing"*, participants were moderately inclined to this idea, with the average situated a little over the middle category of the scale (*M* = 5.6), 32 percent being under the middle point of the scale. No differences by status or school were found. However, young respondents seemed in general to be less willing to substitute travels with videoconference than older respondents. Finally, the willingness to substitute travels with videoconference is linked to pro-environmental attitudes and especially beliefs about how much EPFL should prioritize environmental issues.