



IMPACTS OF VIRTUAL COMMUNICATION ON BUSINESS TRAVEL

The Finnish perspective

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International Business
Bachelor's Thesis
Supervisor: Dale Fodness
Date of approval: 13 April 2017

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Objectives

The main objectives of this study were to compare the manager's perceptions of costs and benefits of business travel with virtual communications, to understand companies' perspective and preferences to business travel and virtual communications in terms of cost and environmental implications and to identify the impacts of virtual communication on business travel in Finland/Finnish companies.

Summary

During the last decades virtual communication has improved and the methods for virtual communication play a big role in today's business environment. While better methods for communication in the virtual environment have been adopted in companies around the globe, also the amount of business travel have increased significantly. This thesis identifies from a managerial perspective what impacts the virtual communication has on travel. The study focuses on the perceptions of managers at four international companies operating in Finland.

Conclusions

Virtual and physical methods for interaction are both available in today's business environment. The viewpoints of the managers interviewed for the thesis, as well as the scholarly literature in the field, supports the complementary relationship between the two, as both have the potential to benefit the companies from economic, social and environmental aspects.

Key words: Business travel, virtual communication, economic aspect, social environment, environment

Language: English

Grade:

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1. INTRODUCTION

1.1. Background

Companies manage their business relationships through face-to-face meetings and business travel to move know-how to subsidiaries and to develop and maintain valuable relationships with clients and business partners. Increasingly, company executives and managers understand the importance of virtual communication as part of improving and maintaining business connections. Yet, both virtual communication and business travel are under pressure due to changes in social and economic environments. In addition, as environmental questions, such as climate change and other environmental effects, have become a global concern, companies need to change their way of managing relationships internationally through technological and environmental improvements. Relatively few companies have made efforts to cut back on travel expenditure through a combination of high-end videoconferencing, telepresence and other everyday technologies (Winston, 2009).

1.2. Research Objectives and Questions

The desired objective of the thesis was to identify the perceived impacts of virtual communication on business travel in Finnish companies or companies operating in Finland, but also having operations abroad. The purpose was to investigate previous scholarly research to compare the costs and benefits of business travel with virtual communication and to understand why companies operating in Finland perceive or prefer one possibility over another while choosing the method of communication. To reach the objective, three different paths were chosen to create an in-depth understanding of the topic. These include economic, social and environmental viewpoints which are further discussed in both, the literature review and the company interviews. There is currently limited research conducted on this topic of companies operating in Finland and their preferences for business communication, whether virtual or physical. A supporting conceptual framework of the topic is formulated in the literature review of the thesis to provide an overall picture of the topic. Lastly, the limitations of the research are discussed and future research propositions are made.

The research question is stated as follows:

How do Finnish travel managers/business travellers perceive the benefits and limitations of virtual communication compared with business travel in terms of cost and environmental implications?

1.3. Thesis Structure

This thesis is divided into six sections. The first introduces the topic to the reader and states the research objectives and questions. Second chapter reviews the previous academic conversation related to the chosen topic and discusses about the benefits and limitations of business travel and virtual communication from economic, social and environmental point of view. At the end of the literature review section, a conceptual framework is presented and the limitations and benefits of communication methods are summarized. The following methodology section identifies the approach that was selected to conduct primary research on the topic. Additionally, it reflects the steps that were taken to achieve the purposes of the primary research study. Some background information about the case companies is introduced in the methodology chapter as well. Chapter four covers the findings collected during the empirical study from the field. In the fifth section, the findings of the empirical study, conceptual framework and literature review are discussed and linked together, and the final results of the research are presented. The final chapter concludes the main ideas and arguments of the thesis, suggests future research areas and discusses the limitations concerning this particular thesis.

2. LITERATURE REVIEW

In this literature review, business travel and virtual communication are inspected from economic, social and environmental viewpoints, as well as identifying the relationship between these implications. The literature review considers mainly international business travel with focus on air traffic, leaving out domestic travel done by other means of transportation (train, coach, and car).

The literature review has been divided into four sections. At first, definitions of virtual communication and business travel are provided. The following sections cover the implications regarding economic, social and environmental viewpoints associated with virtual communication and business travel. Finally, a brief conclusion is offered together with the conceptual framework for the thesis.

2.1. Key definitions

2.1.1. Virtual communication

Technological improvements have allowed societies to communicate via different virtual environments and teleoperations (Barfield et al., 1995). Virtual communication occurs via platforms offered by technological innovations that enable virtual presence. People can thus communicate and coordinate their performance electronically (Kydd et al., 1994), and give others in different locations a feeling of co-presence (Denstaldi, 2004). As Barfield et al. (1995) define it, virtual presence provides “*the sense of being physically present with visual, auditory or force displays generated by a computer*”. The use of these technologies will lead to better and more efficient information and resource distribution (Salomon, 1985). These opportunities provided by information and communication technology (ITC) are widely used by corporations and societies around the world. Indeed, the Harvard Business Review Analytic Services (HBR, 2009) observed that corporations are expanding the work done through videoconferencing and nearly 60% of business leaders reported regular use of videoconferencing while interacting with stakeholders.

Different forms of virtual communication exist. Simply defined, there are two types of communication platforms available in the virtual environment: Communication Architecture (DCA) and Virtual Communication Architecture (VCA) (Goncalves, et al., 2014). The DCA is based on a computer-mediated face-to-face interaction, where the other person can see and hear a speaker on the other computer, whereas the VCA has a virtual reality-based representation of the other person and cannot see or hear the live image of the person (ibid.). As stated by Kydd et al. (1994) and Denstadli et al. (2012), the virtual environment is moderately media rich: DCA allows people to use multiple channels while communicating with one another. This includes the ability to provide instant comments and feedback and employ their speech in such a way that is easily understandable (Kydd et al., 1994; Denstadli et al., 2012).

Managers and businessmen around the world have several motivations to use video conferencing and other types of virtual communication. When asked from the managers, Kydd et al. (1994), Denstadli (2004) and Harvard Business Review Analytic Services (2009) have found that businessmen tend to use videoconferencing in order to 1) save time, 2) reduce travel costs, 3) communicate effectively with co-workers and other stakeholders, 4) improve efficiency 5) and find greener ways to interact with one another.

2.1.2. Business travel

Before defining business travel, one should understand the meaning of transport. As Enoch et al. (2012) define transportation, it exists to offer the movement of people and goods and meets an important purpose in society and economy. In addition, people and goods should move to where their value is superior. The purpose of business travel is to fulfil this goal to meet the needs of subsidiaries, customers and business partners in different locations at different times (ibid.). Moreover, globalization has increased the distances of journeys and created a need for easy accessibility to easy and prompt transportation (Himanen et al., 2000).

Business travel is therefore a part of the transportation sector. As defined by Swarbrooke and Horner (2001), the purpose of business travel is to move workers from one place to another and make trips for business purposes, making them different from tourists. The goal of these travels is to move know-how to subsidiaries from the headquarters and to form and maintain relationships with clients and business partners in different locations (Anon., 2010; Hausmann, 2016). Business travel consists of different methods of transportation, such as air, rail, and buses (Swarbook et al., 2001) and transport people either for corporations' internal or external purposes (Santra et al., 2009; Anon., 2010; Hausmann, 2016). In Europe, the countries that are reported to have the most business travel abroad are all in Western Europe: Germany, Denmark, Belgium, Norway, and the Netherlands (Hausmann, 2016).

Over the years, corporate travel has increased significantly. According to Hausmann (2016), global business travel counts to 1.5% out of the world's GDP, which contributes to 1.2 trillion dollars per year in spending, and the numbers increase annually. Regardless of persistent global uncertainty, the Global Business Travel Association (GBTA) (2016a) has optimistically predicted that international business travel spending would reach \$1.6 trillion dollars by 2020.

Furthermore, according to some industry consultations, around 30% of commercial air traffic is business-driven, and around 18% of that is done for internal business purposes (Anon., 2010). There are numerous reasons for the increased amount of business travel, for example, globalization has abled mergers of businesses into multinational corporations with facilities all over the world (Halme et al., 2001). Moreover, business travel has enabled the creation of a world-wide market place where one multinational corporation has customers, offices and factories in different parts of the globe (ibid.).

2.1.3. The relationship of virtual communication and business travel

Three different hypotheses have been found to determine the relationship between business travel and virtual communication. The first option is substitution, meaning

that tele and virtual communication would allow more applications at reduced costs and the need for travel would be eliminated (Salomon, 1985; Derudder et al., 2011). The second relationship type is complementary, where the two services would complement each other and the efficiency of one would contribute to the efficiency of the other one, as without technology fewer business trips would have been made (ibid.). As the third hypothesis, Derudder et al. (2011) introduce the neutrality theory, suggesting that virtual communication and business travel have no impact on one another, as they both operate independently. Beaverstock et al. (2009), Denstadli et al. (2012), Welch (2012) and Denstadli et al. (2013) found that business travel and videoconferencing systems would have a complementary relationship among the majority of the users of the two: those who travelled frequently also attended more videoconference meetings. In addition, the demand for face-to-face communication increases as digital forms of communication evolve (Beaverstock et al., 2009). Indeed, as Haynes (2010) acknowledges, as the usage of virtual communication via Internet increases, more relationships and partnerships would be possible to form, thus generating the need for more in-person meetings. However, the availability of videoconferencing technology does not necessarily imply the use as nearly half with good access do not use it (ibid.). Yet, as found by Jin-Long et al. (2009), the substitution effect of videoconferencing for physical travel is considerably weaker than other way around.

2.2. Economic impacts of business travel and virtual communication

This section reviews the limitations and benefits between business air travel and the virtual communication from the economic aspect. When considering the economic aspect, there are several implications that limit business travel. These limitations are mostly related to the costs of travel and the capabilities that companies are able to pay to send their workers to do business abroad. As virtual communication is seen as less costly to conduct business with subsidiaries and clients abroad, the company representatives in many studies believe that the value of face-to-face is higher than that of virtual communication. As a result, even though business traveling is associated with higher costs, it is believed to have higher return on investment (ROI) than virtual communication (Anon., 2010).

2.2.1. Economic limitations

The first limitation presented is the cost related to business travel and virtual communication. As the air transport in the EU (European Union) was liberated, the airline industry has developed to be highly competitive (Mason, 2002). Even though the competitive market has decreased the prices of travel, the costs associated with international air trafficking are high due to rising costs of jet fuel (Welch, 2012) and consequently business travellers and their companies might not be prepared to pay the high prices (Mason, 2002). However, many companies feel pressured to travel to acquire new business or to take care of client/customer relationships and are therefore relatively immune to cuts, as travel expenses are seen as a necessity (Anon., 2010). At the same time, Beaverstock et al. (2009) argue that employees' productivity suffers when they spend time traveling, as the workload tends to grow during the business trips. Simultaneously, companies have recognised the importance of travel expenditure to their businesses, and have committed to reduce this cost element (ibid.). According to Denstadli (2004), when asked from the managers, 81% of survey participants stated that the introduction of wider use of videoconferencing was due to the want to reduce travel costs. In addition, when the costs of traveling are high, companies tend to develop their videoconferencing technologies (Welch, 2012). Indeed, price seems to be important in several situations, as those who choose to use virtual communication and/or low cost airlines are seeing the value of money and price as the most important factors when trying to decrease the expenditure of travel (Mason, 2001). Moreover, as stated by Harvard Business Review Analytic Services (2009), most companies have limitations in regards to business air travel. These corporate travel policies (CTP) limit, for example, frequency of travel, airline ticket costs and lodging costs at the destination (ibid.). Moreover, a majority of corporate executives believe that decreased travel budgets could have a harmful effect on businesses' future growth as some contacts might be lost (ibid.), although reducing the traveling costs would save the money of the company (Mason, 2002).

Secondly, traveling for business is extremely responsive towards changes in the political and economic environment (Coddington, 1993; Derudder et al., 2011; Denstadli et al., 2013). As the HBR article (2009) addresses, during economic

downturn companies become more conscious of their travel budgets, for example targeting the cost associated with business travel such as airline tickets, frequency of the travel. On average, different companies reduced their travel budgets by 17% and overall, 56% of the surveyed companies spent less money on business travel during the economic downturn in 2008 (HBR, 2009). These reductions in travel budgets are common during times of war, rising traveling costs and terrorism (Coddington, 1993; Forbes, 2009; Derudder et al., 2011). For instance, political circumstances and terrorist attacks may cause concerns among business people that these events may lose them an important deal (Business traveller, 2016). Furthermore, the study done by Harvard Business Review Analytic Services (2009) showed that the usage of videoconferencing increases as companies are re-examining whether to use face-to-face meetings in more sensitive political, social and economic environments. Indeed, as Forbes (2009) concluded, travel expenses were the first cut-backs that corporates did as recession took place in 2008. In addition, as the recession continued, these funds were the hardest ones for corporates to recover (ibid.). However, as travel budgets have been cut back, companies are more often choosing low-cost airlines to save money (Mason, 2002), even though the majority of travel managers and travellers still believe that these airlines offer good value for money (ibid.).

Thirdly, the location of business affects the costs. As some companies do have less experience in interacting with businesses abroad, they seldom choose remote locations for subsidiaries as they are unaware of the expenses of interacting at far-flung locations (Boeh & Beamish, 2011). Indeed, distant locations are associated with higher travel costs and further, lower return on investment. Boeh and Beamish (2011) discovered that the longer time it takes to travel between the locations, the less the subsidiary is expected to be rewarding: an entity an hour remoter from headquarters has 7% lower chance to be profitable than a closer unit.

There are economic limitations to the use of virtual platforms too. First of all, as companies have different access to the communication platforms it might lead to issues in communicating with one another (Denstadli et al., 2013). Their findings showed that the best access to different videoconferencing technology was available for those working in large or multi-unit companies, leaving the small- and medium-sized companies with poorer systems due to higher costs associated with better

ones (ibid.). Indeed, as Denstadli et al. (2012) state, the company's size and geographical structure matter. For example, some corporations have invested \$300,000 on telepresence rooms, which allow employees to feel as they were in the same room with co-workers on the other side of the world (Wolgemuth, 2008). However, even after the set-up of expensive telepresence videoconference systems, employees might resist using them due to negative mind-sets and poor experiences, and so be a poor investment (ibid.). It has been estimated by Anon. (2010) that videoconference rooms are used only 5-10% of the time, resulting in low ROIs. In addition, the telepresence systems and videoconferencing rooms are associated with operating costs, differently from business air travel. Indeed, the monthly cost of operating a system can exceed \$20,000 (ibid.).

2.2.2. Economic benefits

After the economic downturn in Europe in 2008 businesses are increasing their travel budgets (GBTA, 2016b). As considered by most executives surveyed by Forbes (2009), they feel that in-person meetings have better value that offsets the time and expenses associated with travel. Indeed, as argued by Denstadli et al. (2012) and GBTA (2016a), businesses all over the world evidently recognise the ROI business travel delivers for their bottom line as the information can be communicated face-to-face effectively. In addition, business travel is seen as a vital business investment in order to maintain business relationships across the globe (GBTA, 2016b).

Secondly, in many firms, only behind labour, travel spending is the second largest controllable cost (Collis, 2001; GBTA, 2016b). Also, companies and individual airlines benefit of the deals and discounts negotiated in order to cover a company's travel globally (Mason, 2002). Regardless, multiple corporations only have operations on a small number of routes, individual airlines tend to provide worldwide coverage for all of a company's air travel requirements (ibid.).

Nevertheless, long-term changes are rooted in persistent labour and product market reforms (GBTA, 2016b). These modifications may affect how companies choose to

interact with one another, and increasingly, lower costs and greater reliability have made teleconferences, videoconferences and web conferences more extensive options for meetings (HBR, 2009). As Harvard Business Review Analytic Services (2009) found, 59% of managers stated that the use of virtual conferences had risen during the economic downturn. As companies are pressured to cut back costs during recession, using alternative solutions for travel (virtual communication, telepresence etc.) is a simple approach to reduce travel costs (Anon., 2010). Indeed, the use of technology is associated with lower information processing costs (Clemons et al., 1993). Investment costs and the operational cost per minute have declined considerably as a result of the development of improved techniques for live video density (Derudder et al., 2011). These emerging technologies have made it possible for business people to interact virtually across the world resulting in budget decreases for companies (Welch, 2012). As estimated by Brightcom (n.d.), in the second year after putting into practice, video conferencing could save a corporate 50% of their travel expenditure of the original cost, and 38% during a five-year period. Moreover, the use of telepresence, video conferences and other telework systems has declined the need of travel for internal meetings (Anon., 2010) and helped organizations to get competitive advantage (Welch, 2012). Even though different statements were mentioned in the earlier section, Santra et al. (2009) controversially argue that individuals are performing better at their work when they operate via computer-based communication systems, resulting in higher ROI. Mahmood et al. (2005) recorded similar findings; organizational performance and productivity had positive relationship with IT investments.

Secondly, many technological improvements have allowed individuals in the office to be more productive and effective in their work (Welch, 2012). Smaller-scale systems, such as Skype, have developed quickly and enabled more frequent and easier use of virtual communication methods (Greene, 2008; Welch, 2012). In addition, time is saved while using tele- and videoconferencing technologies (Greene, 2008; Derudder et al., 2011). Moreover, as Coddington (1993) argued, decisions can be done more efficiently and cheaper and products gotten to markets faster (Greene, 2008) by using these alternative solutions, rather than spending time on the air unproductively.

Thirdly, there is a wide range of services and platforms offering video conferencing solutions that are versatile and beneficially adjusted to modern-day business practices (Derudder et al., 2011). Welch (2012) also stated that as the variety of technologies in communication increases, the costs stay relatively low due to competitive markets. As the alternatives and numerous different and more efficient platforms are established, the operational costs of companies are decreasing due to competition in the industry (Clemons et al., 1993).

To conclude the economic benefits, Anonym (2012) found that based on the success of adopting telepresence early, 70% of internal travel and 10% of external travel can be substituted over the next 10-15 years in order to cut back the high costs of business travel, approximately 21% of the corporate travel expenditure. Currently, the biggest users of videoconferencing and telepresence systems are tech companies (Winston, 2009). For example, British Telecom had savings \$330 million while Microsoft saved over \$90 million per year on avoided travel expenses and time saved (ibid.). However, only a few corporations have made efforts to cut back on business travel through a combination of high-end videoconferencing, telepresence and everyday technologies (ibid.).

2.3. Social impacts of business travel and virtual communication

In the Harvard Business Review 2009 study 45% of participants reported the use of videoconferencing and other virtual communication platforms during the last 12 months. Interestingly, videoconferencing was rarely used as a method to conduct business and contact with business partners in comparison with face-to-face meetings that obligate international travel (76% of the participants had travelled internationally during a one-year period). However, most of the respondents understand the value of teleconferencing in addition to in-person meetings (ibid.), but as studied by Denstadli et al. (2013), face-to-face meetings are considered as a norm in order to keep professional contact with business partners. Nevertheless, the exponential improvement of telepresence/videoconferencing platforms (Anon., 2010) has had both negative and positive social effects on business travel that are introduced in the following sections.

2.3.1. Social limitations

Research has found a few social drawbacks considering business travel. Firstly, global changes and uncertainties affect the amount of business travel (GBTA, 2016a). For instance, lately Brexit, US elections, terrorist attacks and other political uncertainties have influenced the amount of business travel (ibid.). As referring to Business Traveller (2016), after the shootings in Paris there was a 50% drop in business traveling in Europe for a short while. Moreover, business executives and workers are concerned about losing important business deals due to these uncertainties in political environment (ibid.).

Secondly, personnel might have decreased professional performance during and after extensive travelling schedules as they are exhausted and have jet-lags affecting their quality of private life (Halme et al., 2001). Indeed, as TelecomWeb News Break (2007) expresses, the introduction of better virtual communication services has saved employees time while increasing their productivity and having better quality in personal lives. In addition, being away from home for a long periods of time has limited women's professional careers as their willingness to travel is poorer (Beaverstock et al., 2009).

Thirdly, and interestingly, mobile phone services, portable computers and mobile access to the Internet have liberated executives and managers from the headquarters, allowing them to be contacted without being physically present at the office and allowing them to travel more (Himanen et al. 2000). Already in the early days of alternative communication methods, Salomon (1985) and Coddington (1993) discovered the same kind of outcomes: that technology created to reduce travel times would actually generate more demand for trips. Indeed, in the study of Denstadli (2004), 16% of respondents agree that videoconferencing has created a need for more business travel as virtual communication has enabled companies to identify new business partners and solutions faster. Conversely, frequent need for travel also takes time from the companies' personnel to see, meet and discuss with key staff in person as they are not available due to long-lasting travelling. This has led to frustration and loss of control within organizations (Halme et al., 2001).

There are also some limitations regarding virtual communication systems and their use. After the introduction of online platforms for business meetings, video and audio were not reliable for conducting business, often resulting in the need of help services (Anon., 2010). This has created an environment of off-putting attitudes towards videoconferences. As a result of these weaknesses, videoconferencing has not been used for central meetings, which has caused a rare use of videoconferencing rooms (ibid.). What is more, employees have found the use of video conferencing off-putting because of complicated scheduling for video conference rooms, unreliable and impractical technology (Wolgemuth, 2008). In multiple situations where only formal communication is needed, a number of individuals think that face-to-face interaction is still needed, leading to decreased use of video technology (Lassen, 2009) which fails to include an informal component that is difficult to recreate in virtual meetings (Denstadli et al., 2013). Also, security of information cannot be guaranteed while communicating with partners and customers around the globe as internet security cannot always be assured (Douglas et al., 2013). When asked from the employees, the main thought was that video and tele conferencing were merely efficient when checking on and trying to complete a project and otherwise only a frustrating and unconfident way of communicating with one another (HBR, 2009). Also the study done by Forbes (2009) had similar results: many executives conveyed their concerns that video conference attendees did not give their full attention to conferences done virtually. However, as argued by LaBrosse (2010), organizations should ignore former prejudices and unpleasant memories of the old video-conference services and genuinely consider the new available technologies.

2.3.2. Social benefits

Multiple different opinions have been reported about the benefits of virtual communication and face-to-face meetings. As mentioned earlier, people do have diverse responses towards different communication environments. For example, as Lassen (2009) points out, the social need of co-presence is influenced by a person's desire to travel, travel time available, external demands and expectations, and whether the interaction is formal or informal. Indeed, in different parts of the globe people feel differently about in-person meetings, since face-to-face communication is

dynamic and changeable, and different for each individual (Derudder et al., 2011). Welch (2012) has supportive arguments: some individuals do feel more comfortable while interacting and communicating with one another by virtualized communication methods.

However, in-person meetings have been stated to be beneficial, for instance, because of the human nature and unconscious communication (Hausmann, 2016). People collect important information face-to-face about each other's goals and intentions from facial expressions, body language, and other subtle indicators (ibid.). Indeed, as argued by Forbes (2009) and Hausmann (2016), people bond better in person and understand others' targets, thus making it necessary for business people to build closer and more valuable relationships with clients and business associates and maintain active bonds with one another. Aguilera (2008) expresses similar thoughts: as the complexity of information rises or it has more strategic importance, the higher is the need for face-to-face communication.

Yet, some other benefits of in-person contacts are expressed by multiple researchers. Firstly, business travel and visiting new countries and cities gives people meaningful personal experiences, makes them more open-minded and deepens awareness and understanding of different cultures and the world (Beaverstock et al., 2009; Molinsky et al., 2016). Secondly, the airports and airlines have made traveling more comfortable for business people as Internet, business centres, wireless access and charging stations are now available for travellers at airports, hotels and on air (Welch, 2012).

Although virtual communication systems have been criticised due to poorer interaction opportunities (Hausmann, 2016), companies using telepresence and other virtual communication methods are now seeing positive responses from the workers (Anon., 2010). Virtual communication systems have improved during recent times and are therefore used to develop better coordination and cooperation within organizations with global operations, increase management externally and to improve quality of life of business travellers (Anon., 2010).

Furthermore, virtual communication platforms have benefits over in-person meetings when a project includes a high degree of formality such as having a task meeting which only contends the preparation and distribution of practical work assignments (Derudder et al., 2011). Santra et al., (2009) argue that as they consider the electronic communication systems as less formal since they reduce organizational barriers, and transmit information that would otherwise not be presented. To conclude the ideas presented, although new technologies can create “virtual rooms”, giving the participants a sense of co-presence, videoconferencing cannot substitute the genuine aspect of meeting in-person (Denstaldi et al., 2013).

2.4. Environmental impacts of business travel and virtual communication

In this section, the environmental implications on business travel and virtual communication are presented. By substituting business trips by virtual communication methods, emissions from cars, planes and other modes of transportation are cut down (Derudder et al., 2011). Indeed, the impact air travel's CO₂ emissions in the atmosphere is a threat to climate change and has a greater risk associated with it compared to other transporting solutions (Lassen, 2009). Workers in knowledge societies often travel a considerable amount in connection with their jobs, and journeys are frequently managed with the most energy-consuming and environmentally damaging method of transport, flying (ibid.). Yet, being more environmentally sensitive has become imperative also in bigger business entities (LaBrosse, 2010). As McManners (2012) claims that environmental impacts of air trafficking are not most people's main concern when deciding to travel. Furthermore, environmental issues can either be of strategic interest for companies, or for mere corporate social responsibility (CSR) purposes, but they can still characterise or differentiate the firm from others (Beaverstock et al., 2009).

2.4.1. Environmental limitations

Business travelling has been identified as one of the greatest emitters of greenhouse gases (Halme et al., 2001) and causes damage to the atmosphere (McManners, 2012). Indeed, it is commonly recognised that traveling for business can be an environmentally and economically costly proposition for organizations (LaBrosse, 2010). As a hope to support the economic incentives to go green, aviation costs are assumed to be raised from the beginning of 2016 to intensify the impact on airfares, revenues and social costs (Meleo et al., 2015).

Increasing concern about the negative impact of transportation on greenhouse gas emissions may also influence businesses' decisions to use virtual communication (Aguilera, 2008). Roos (2009) reflected on an Aberdeen research survey which reported that while going green has become a "must-have" business imperative for the 200 enterprises surveyed. 46 percent of companies said that budget challenges remain an obstacle to sustainability initiatives. Also, 42 percent still find it challenging to make sustainability a profitable part of their business (ibid.). As Lassen (2009) stated, by supporting the use of virtual communication methods in minimizing environmental impacts and travel costs (e.g. taxes on airline fuel and greater regulation of work travel in companies, etc.), then also the society and knowledge organizations have greater incentive to reduce international air travel. However, as claimed by Greene (2008), carbon dioxide is still emitted as planes that the business travellers would have taken are flying anyway even though international air travel would be reduced. Over time, the results would be different and the amount of carbon dioxide emissions would be reduced if people used more telepresence rather than business travel (Greene, 2008). Yet, also other reductions could be made by reducing the amount of business travel: as Brightcom (2010) emphasized, the environment would benefit from smaller amounts of paper, cardboard and other business materials being saved by videoconferencing.

On the other hand, airlines can highlight the advantages of in-person meetings as more important and thus best in some business meetings (Winston, 2009). Meanwhile, they fail to meet the green argument (ibid.). The increased concern for the environment presents a great challenge to all businesses (LaBrosse, 2010).

According to Denstadli (2004), when managers were asked, the environmental aspects were considered unimportant while considering why to reduce the amount of international travel. At the same time, LaBrosse (2010) agrees that there are some situations where face-to-face meetings are necessary to sustain business relationships or meet new business partners.

The aforementioned environmental concerns suggest that more research should be conducted to define the level of substitution and the conditions under which such changes can be made (Douglas et al., 2013). Clearly, the biggest challenge remains to be the introduction of a green mind-set when doing the cost-benefit analysis of going green and thinking over the long-term benefits of environmentally friendlier behaviour (LaBrosse, 2010).

2.4.2. Environmental benefits

Already in tele- and virtual communications' early days, Salomon (1985) suggested that replacing business travels with alternative communication solutions could have potential to decrease energy spending and greenhouse gas emissions. According to Romm et al. (1999), the ITC sector's growth and the use of Internet communication methods may correspondingly generate dematerialization because of decreasing energy and material intensive manufacturing. As highlighted by Winston (2009), the main argument of going green is that organizations may save money while also reduce their environmental footprint through travel reductions. Indeed, companies' interests about saving costs might lead to encouragement of implementing green alternatives to face-to-face communication and business travel (Douglas et al., 2013). Moreover, if introduction of green taxes and other environmental tools together with increasing air fares and the growing use of video conferencing impact the business air travel (Denstadli et al., 2013) and thus reduce organizations' carbon footprint (Arnfolk & Kogg, 2003). Additionally, environmental benefits of video conferencing have been low on the business agenda until recent times. Increased awareness of the global climate crisis can modify the standpoints of business executives and managers (Derudder et al., 2011). As MacKenzie (2008) adds, organisations are starting to pay attention to the carbon effect of their policies, and

are reducing the amount of business journeys in order to deal with climate change (MacKenzie, 2008).

What is more, telepresence and other virtual communication systems are used to encourage green initiatives (Anon., 2010). Companies are cashing in on the market's pressing desire to become lean, while also attracting the need of being green (Winston, 2009). Telework also represents a great way to show employees that corporates both care about their life balance and about greening the business (ibid.). The desire of going green and choosing options provided by the Internet, businesses can also improve their corporate image due to environmentally friendly solutions (Greene, 2008). Indeed, the annual reports of multinational corporations are increasingly highlighting business travel's expenditure on CSR and environmental issues (Beaverstock et al., 2009).

2.5. Conclusion

Although Web and video conferencing have their roles in the business world, executives in multiple surveys do not expect them to replace the need for in-person meetings (Welch, 2012). However, as Forbes (2009) and Welch (2012) conclude, business travellers desire a mixture of virtual communication and face-to-face meetings. In other words, new technology possibilities provided by the Internet do not necessarily substitute, but often co-exists with the other means of communication (Halme et al., 2001). So far, only a handful of companies have worked towards reduced international air travel through a combination virtual communication methods and other technologies (Winston, 2009). Future research in this field should consider developing a greater understanding of how the two modes complement each other over time and the factors that encourage decisions to use one over the other (Denstaldli et al., 2012). Finally, Derudder et al. (2011) state that even if new technologies can produce 'virtual rooms' giving the attendees a feeling of co-presence, video conferencing might never replace the genuine aspect of face-to-face meetings.

2.6. Conceptual framework

This section analyses how the conceptual framework can be applied to the chosen thesis topic.

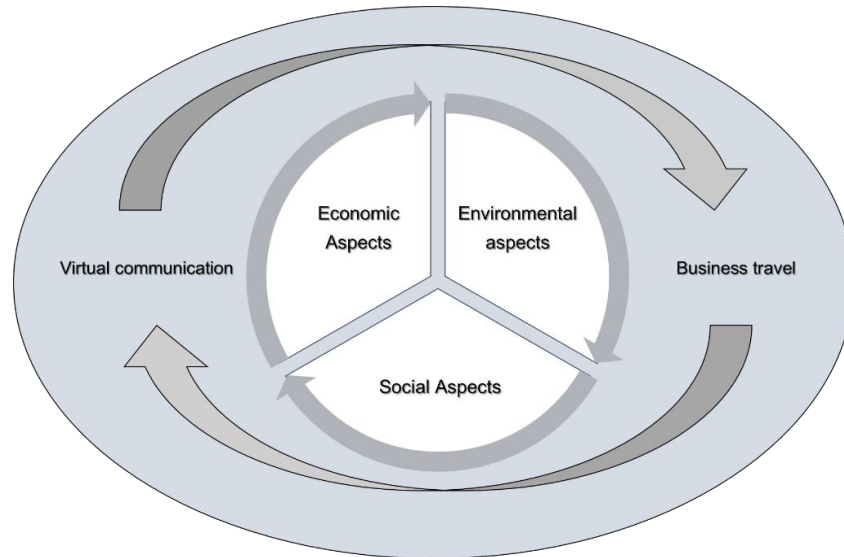


Figure 1. Conceptual Framework

The scholarly researches demonstrated that virtual communication and business travel are moderately associated with one another in today's business world as both methods are used to conduct business domestically and internationally. However, the economic, social and environmental implications have effect on which approach is chosen in different situations while communicating with one another. Moreover, the economic, social and environmental aspects have effect on each other, for example, when budget cuts are performed to decrease the amount of travel, also the environmental effect and footprint are less significant. The social aspect reflects to the other implications, as the importance of meeting determines whether personal or virtual meeting is preferred. The scholarly literature addressed that both methods of communicating are used as the methods have complementary relationship. This thesis analyses further how Finnish travel managers perceive these implications and whether their perceptions support the earlier literature.

The main benefits and limitations of the three aspects presented in the conceptual framework are summarized in the table below.

	Benefits	Limitations
Economic aspects	<p>Business travel:</p> <ul style="list-style-type: none"> • Effective communication → return on investment (ROI) • Controllable cost • Discount deals with airlines <p>Virtual communication:</p> <ul style="list-style-type: none"> • Low costs and good reliability • Way to reduce travel expenditure • Time savings and productivity → return on investment (ROI) 	<p>Business travel:</p> <ul style="list-style-type: none"> • High travel expenditure • Responsive to changes in political & economic environment • Distant locations → higher costs <p>Virtual communication:</p> <ul style="list-style-type: none"> • Accessibility & affordability on platforms in different size companies • Operating costs
Social aspects	<p>Business travel:</p> <ul style="list-style-type: none"> • Desire to travel & personal experiences • Important unconscious signals (e.g. body language) → building closer business relationships <p>Virtual communication:</p> <ul style="list-style-type: none"> • New business possibilities can be identified faster • Improved quality of personal life 	<p>Business travel:</p> <ul style="list-style-type: none"> • Suffering employee productivity • Pressures to travel • Suffering quality of private life <p>Virtual communication:</p> <ul style="list-style-type: none"> • Rarely used for central meetings • Negative attitudes of employees • Fails to include informal aspects of communication • Information security
Environmental aspects	<p>Business travel:</p> <ul style="list-style-type: none"> • Less travel → greener company image • Multinationals' observations of travel expenditure and environmental issues <p>Virtual communication:</p> <ul style="list-style-type: none"> • Decreased energy spending and greenhouse gas emissions • Dematerialization 	<p>Business travel:</p> <ul style="list-style-type: none"> • Greenhouse gas emissions (CO2) → environmental costs • Budget challenges regarding sustainable actions • Challenges with creating green mind-set within companies <p>Virtual communication:</p> <p>-</p>

Table 1. Summary of Conceptual Framework

3. METHODOLOGY

This section of the thesis defines the methodology used to perform the research.

In this study, both primary and secondary data were used to address the research questions which were to identify implications and benefits of virtual communication from economic, social and environmental aspects, to understand the perspectives and preferences of companies to business travel and virtual communication in terms of cost and environmental implications and, finally, to identify the impacts of virtual communication on business travel in Finnish companies. First, scholarly data was collected to acquire an in-depth understanding of both business travel and virtual communication methods from the standpoints mentioned above. Primary data was then gathered through semi-structured interviews to discover the most significant insights regarding the topic. According to Perävuori et al., in the book *Handbook of qualitative research* (2013), through interviews, a researcher can better identify the areas of reality such as subjective experiences of people and attitudes in order to conduct relevant and high-quality research. In addition, the semi-structured interview method was chosen to ensure that the interviewees were engaged in free discussion on the topic with the interviewer.

This section goes through the research design, the data collection process that was found to be the most fitting to address the research question. Both practical methods and theoretical elements are discussed in the following.

3.1. Interview Design

To conduct a comprehensive analysis of the perceptions of managers about the economic, social and environmental implications of business travel and virtual communication, the interview method was selected. The interview method was preferred as the research requires answers that are thorough and detailed and to avoid generic answers that could have occurred while conducting a quantitative research. As Yin (2013) argues, a case study strategy as a research method is

favoured when the object of study is an ongoing phenomenon in real-life setting and when it is desired to collect several sources of evidence.

The purpose of the qualitative interview was for the interviewees to answer the presented questions in their own words and from the perspective of their companies and to highlight the most valuable aspects in their personal/company standpoints. As Miles et al. (1994) state, the major goal of qualitative data collection is to focus on ordinary events in their natural sceneries, so that we have a strong representation of the “real world”. They address that qualitative data is collected in close proximity to a specific situation. In addition, qualitative data determines how people perceive different events and processes and attempts to understand their perceptions, assumptions and prejudgements occurring in different settings (ibid.).

3.2. Data collection

The empirical data was gathered in February and March, 2017. The interviews were conducted as semi-structured to identify the most valuable perceptions regarding the topic. In total, 19 interview questions were sent to the interviewees beforehand. The specific interview questions can be found as an appendix. All the pre-formulated questions were asked during the interview as well as additional questions that raised during the discussions. The interview questions were thematised in three different categories as developed in the literature review: environmental, social and economic aspects. In addition, few questions were asked about the current state and use of business travel and virtual communication platforms. These question categories were also used while conducting the interviews and asked in the same order as they were sent to the interviewees. The interview discussions were held via the Skype for Business application and each interview took approximately 30 to 45 minutes. The interviews were recorded and the answers were then transcribed before the data analysis process. The discussions were conducted in Finnish and later translated into English.

Due to limitations of time and personal connections, four different companies and five individuals were interviewed for the thesis. All companies have domestic

operations in Finland as well as international business relations and operations. Some additional information of the companies which participated in the research can be found in the table below.

Name	Industry	Number of employees	Number of Interviewees	Occupation
Company A	ITC	100	1	CEO, Software
Company B	ITC, teleoperations	21 000	1	Environmental Manager
Company C	ITC	13 000	1	Travel manager, software/services
Company D	Insurance	6000	2	Head of HR Administration & Office Service Director

Table 2. Interviewees

3.3. Data Analysis

The data analysis consisted of two phases: findings and analysis. In the findings, the main points and concepts of the interview answers were identified. As written by Peräkylä et al. in the book *Handbook of qualitative research* (2013), qualitative data analysis do not follow any predefined protocol while conducting the data analysis process. The main idea is to read and reread the materials and pinpoint key themes and construct a larger picture of the meanings of the data (ibid.). In this thesis, the data is analysed and structured by the themes discussed in the literature review (environmental, social and economic). In the findings part of the thesis, the interview questions and answers were grouped with the aim to recognize the larger concepts, perceptions, similarities and differences related to the themes perceived in this thesis. Finally, the identified key concepts were discussed and further analyzed together with the information provided in the literature review. This analysis was then used to produce the final conclusions of this study.

4. FINDINGS

In this section of the thesis, the findings of the interviews are presented. The interview answers are paraphrased and the most significant applications related to the research question are highlighted.

Firstly, the findings section presents the relationship between travel and virtual communication within the interviewed companies and the amount of usage of each method. However, during the interview process, the environmental questions were asked first, social second and finally economic implications. Due to clarification, the aspects related to business travel and virtual communication methods are represented in the same order as in the literature review, first examining the implications related to economic aspects, then social and environmental attributes.

4.1. Relationship between business travel and virtual communication

In the beginning of the interviews, the current state of business travel and use of virtual communication methods within the companies were detected. The goal of these questions was to identify whether there have been changes in companies' travel patterns during the last five years, to discover the reasons for travel and whether virtual communication methods have had an effect on the business conduct of these companies.

Firstly, the interviewees were asked about the travel patterns in their companies and whether there had been major changes in the ways they conducted business during the past five years. In Company A, Skype and other virtual methods had decreased the amount of travel slightly, whereas Company B had been able to decrease the amount of business travel significantly. Company C and D stated that the amount of travel varied yearly, but while considering the bigger picture, the amount of travel had been stable.

The reasons for travel varied between the companies. However, all the companies expressed three main motives for travel: working with clients, sales work in different events and internal business travel. Company A highlighted international clients and working for them as the most significant reason for travel. In company D, the main motive for travel was to meet internal partners. In Company C, the travel was distributed equally between internal travel and travel related to working with clients. Company B emphasized all three aspects but was not able to identify the most important reason for travel. All of the interviewed companies expressed that they travel because of all of the three main motives, but the amount of each motive varied between the companies.

Subsequently, the interviewees were asked about the relationship between business travel and virtual communication and whether virtual methods for communicating had generated more or less travel and if they were able to substitute some of their travel by virtual methods. Each of the companies conveyed that the virtual methods have been able to substitute some of the travel, and virtual communication had generated less travel. As company B explained: *'International business requires virtual communication – otherwise conducting business would be inefficient.'*

In Company A there had not been large-scale changes in the amount of travel. However, the ease and effectiveness of virtual communication was highlighted, and virtual communication was expressed to be helpful in day-to-day operations with domestic and international partners. Company B had been able to exploit new technological possibilities for virtual communication and, consequently, the amount of virtual communication had increased internally. Nevertheless, company B highlighted that as business possibilities increase, it correspondingly boosts travel, and the most significant change in acquiring virtual methods had been in internal communication. Similarly, company C had been able to decrease the amount of travel by substituting internal travel with virtual methods. In addition, company C addressed that also some of the client interaction, such as contract negotiations and project meetings, could be conducted online, but the actual work for clients was conducted face-to-face. Likewise, company D expressed that virtual communication had decreased the amount of business travel, and investments in telecommunication

networks had been an important part of guaranteeing effective communication between subsidiaries.

When asked about the platforms that the companies used most often to substitute physical travel, Skype for Business was identified as the most important platform in all of the interviewed companies. The benefits of using Skype for Business was the easiness (company A), efficiency and work maximization (company A, B), and cost-effectiveness (company D). Companies A and C also expressed that screen-sharing was used almost without exception, while company D uses screen-sharing only at some level. The other virtual communication platforms that were used to communicate virtually included clients' own communication systems (company A), telephone and teleconferencing (company A, B, C, D), video conferencing (company B, C, D), telepresence (company B) and Google Hangouts (company C).

4.1. Economic implications

The questions related to economic implications of business travel and virtual communications considered the amount of costs related to business travel and virtual platforms in addition to the amount of use of the both communication methods. In company A, the use of physical meetings was be rather low, as in a few of tens meetings per year. However, the costs related to travel were high like internal virtual infrastructure costs, but the relationship between the costs associated with virtual communication methods and travel were distributed well. Similarly, company C identified travel costs to be a significant part of expenditure and approved that by increasing the cost element concerning virtual communication platforms and having more options for communication virtually the business travel expenditure could be reduced. Company B stated that the company had been observing the cost of travel for a longer time and thus been able to decrease the amount of expenditure regarding travel. The number of face-to-face meetings was relatively low in comparison with virtual communication methods due to the long-term observation of the costs of travel. Costs related to virtual communication methods were seen as a norm in order to be able to effectively conduct business and communicate with one another on a daily basis. In company D, travel expenditure was seen as a vital

condition to conduct business internationally, but also considered as a cost that could be decreased. However, Company D highlighted the importance of cost-effectiveness in terms of travel and virtual communication and had adopted solutions that would guarantee this. Company D had been able to encourage personnel to choose the most inexpensive option for travel and to negotiate discounts with airline companies and thus keep the travel expenditure lower than the average. The costs of virtual communication methods were seen as relatively low expenditures within the company.

Secondly, the interviewed companies were asked about the benefits related to both business travel and virtual communication from the economic viewpoint. The economic benefits that the companies perceived to relate to business travel included the importance of face-to-face communication and personal interaction with clients. This was reported as one of the main benefits in all four interviewed companies and stated to be a requirement for conducting business with clients, building trust and being improve efficiency in the future. As stated by the manager in company B, *'At the moment, meeting clients and conferencing in-person are necessity to build a common ground for upcoming business.'*

Company C also highlighted the importance of return on investment (ROI) that is analysed before traveling to meet clients: *'If the travel concerning sales in some project increases, the probability increases that the customer buys more and so the project generates more profit – in most cases, ROI is greater when we go to see the clients face-to-face.'*

Also, company D expressed that the possibility of success in a project increases when the client is met personally. When it comes to the benefits of virtual communication, all of the companies emphasized time savings when the personnel did not need to spend time on traveling between subsidiaries or to meet the clients. As stated by company A, the amount of communication increases as well as the meetings can be held easier. In addition, companies C and D underlined that time saved from traveling can be used to generate more efficient work at the workplace: *'If you have to spend part of your work time to travel, it decreases the amount of time you have available for the actual work.'* (Manager, Company C).

The second benefit of virtual communication, as viewed by companies C and D, was the avoidance of travel expenses and savings in payed kilometre and daily allowances.

When asked about the characteristics regarding face-to-face communication that could not be substituted with virtual communication, the companies expressed that there are some attributes that could not be substituted by virtual communication. As one of the main characteristics, the companies identified body language and sensory perceptions to be an important factor when meeting people face-to-face. Also, companies A and C mentioned that getting to know people on a deeper level is easier when meeting personally, as virtual meetings tend to focus merely on the business. As company C expressed, it is easier to influence people in face-to-face meetings in all kinds of business situations. Company D also mentioned that as the complexity of the discussed matter increases, meeting in-person becomes more relevant.

4.2. Social implications

The interviewed companies were requested to consider the social implications of business travel. Two main social attributes were raised: the employees' personal and work life. Companies A, C and D expressed that different situations in personal lives, such as families and hobbies, might be affected if the employee travels constantly. As company A expressed, for some employees it is easier to be on the move, whereas for others it can be more challenging depending on the family situation. Company C addressed the same issue: *'The more the person travels, the more the family is affected. This is why we travel only when we have to, otherwise we try to hold the meetings virtually with the aim of employees having more time for their families and hobbies'*.

Simultaneously, company C mentioned that satisfaction at work increases when work includes some travel, due to positive perceptions about traveling. Nevertheless, all companies reported that work frequently requires traveling, at least in the

beginning of new projects. Companies B, C and D addressed the same practices when starting a new project: the project with a new team or customer is easier to initiate when the people involved in the project have at least met once, for example, in a kick-off day or some other meeting. After at least one in-person contact it is more effortless to communicate virtually. According to a manager at company D, *'Building trust requires travel.'* The manager of company C agreed: *'In order to connect with people and work together, we need face-to-face meetings. This is why the travel might also increase in some cases.'*

Additionally, when asked about the benefits of business travel, all four companies perceived that the most beneficial aspect of face-to-face was trust-building and creating personal relationships that would thereafter lead to more efficient cooperation.

The interviewees were also asked to consider how social relations would be affected if business travel was entirely replaced by virtual communication methods. Multiple different aspects were raised during the discussions. Most importantly, all companies highlighted the importance of sensing the other person's gestures and motions, which are important to interpret in order to avoid miscommunication, for example, because of different cultural backgrounds and language barriers (companies B and D). Face-to-face meeting was also considered important as it generates better understanding of the clients and their requirements (company A). Furthermore, companies A and B addressed the formality of the use of virtual communication methods:

'A virtual meeting has a clear beginning and end, but when we meet in person, 10 to 15 minutes before and after the meeting are valuable time to discuss with co-workers or clients in a more informal setting.' (CEO, company A)

In company D, however, virtual meetings were considered in some cases to be informal by the Head of HR administration:

'Asking questions from each other is easier when virtual communication works well -- I know some teams that have introduced virtual coffee breaks. Team is able to

discuss lot of work-related material but in informal setting, where it is easier to ask questions and to encourage each other'.

Additionally, companies B and D mentioned that the overall change in working habits and corporate culture would shift completely if moving from physical to virtual environments, and it would require large-scale changes in attitudes. As pointed out by the manager in company B, the shift would also require understanding from clients and them having a similar corporate culture. However, also some differences were found in the perceptions of the companies while considering time. Companies B and C reported that focusing only on virtual communication, all features related to business would be less time-consuming. Oppositely, company D said that building a confidential customer relationship would be more complicated and require additional time.

Moreover, the biggest benefits of virtual communication were identified. The biggest benefit was considered to be time savings when there is no need to travel (companies A, B, C, D). Also, the easiness of contacting people virtually and sharing information was mentioned by companies B and D.

4.3. Environmental implications

Interviewees were also asked to take a stand on the environmental implications of business travel and virtual communication. The companies were asked whether business travel had negative implications from the environmental point-of-view and whether virtual methods were the way to reduce environmental impacts of travel. All four companies had similar viewpoints on the effect that business travel has on the environment. Companies expressed that the carbon dioxide (CO₂) emissions had the greatest negative impact on the environment. Companies B, C and D addressed their companies' environmental programs that restrict the amount of CO₂ emissions. For example, company D had an objective to be CO₂ neutral and to compensate all CO₂ emissions.

In these three companies, the amount of CO₂ emissions was also monitored annually. The main concerns related to CO₂ emissions were the emissions deriving from air traffic and ground transportation, but also rush hours on ground transportation. Companies B, C and D said that by increasing the use of virtual communication methods, the environmental impacts of business traveling could be reduced. Company A considered that the environmental impacts can be somewhat reduced by virtual communication, but as conducting business internationally requires some amount of travel, it cannot be fully compensated. However, all four companies considered environmental impacts to be at minimum and thus offset travel with virtual methods.

Companies B and C mentioned that virtual communication has negative environmental impacts, for instance electricity, but in comparison with the negative impacts of travel, the expenditure is almost non-existent. The other important implication discussed was the want to be ahead in the use of virtual platforms and thus become more environmentally friendly. However, companies B and D said that environmental issues do not solely depend on their actions, but also the amount of airline companies offering flights to destinations abroad. Additionally, company D expressed the importance of informing employees about the environmental implications of travel and so support the use of virtual communication over physical

travel. In company D this was accomplished by offering the employees local bus tickets and so reduce the impact of private cars.

Companies were also interviewed about their corporate travel policies set to control the amount of business travel and whether the policies encouraged employees to communicate more via virtual platforms. The purpose and the main objective of the policies was also discussed from the environmental, social and economic standpoints.

In company A, there were no specific travel policies or restrictions for travel volume introduced as the establishment of such policies would affect their business operations. Company A aims to use travel and face-to-face meetings at a moderate level and also the environmental factors are taken into consideration when deciding when to travel. When travel is needed, company A chooses the most inexpensive and reasonable methods while booking flights and hotels. Virtual communication is used on a daily basis in company A and the employees are encouraged to use the easiest techniques, such as Skype, to communicate with internal and external partners. *'We cannot only think about the green side while doing business – then we would merely sit in our offices and the business would not flow smoothly,'* said the CEO of company A.

Company B has introduced an ethical Code of Conduct, where different sections are established to conduct business in different settings. One of the sections reflects the issues concerning the environment and business travel. The aim of the section is to formulate rules for reasonable amount of travel due to green and economic reasons. From the social aspect, the purpose of the Code of Conduct is the added volume of the use of virtual communication without compromising social interaction. Company B believes that virtual communication is the way to reduce the environmental impact of travel. Company B has invested in, for instance, video conference rooms at the office and thus encouraged employees to use virtual platforms to contact with one another.

In company C, same kind of Codes have been introduced in order to control the amount of travel. *'In our global travel policy -- which all of our employees need to*

follow -- has clear instructions for when to travel and how the business trip is arranged. Primary option is always a virtual meeting.'

The purpose of the corporate travel policies is all above social: to assure the equality of the employees by having the same protocol for everyone. Additionally, company C wants to guarantee the safety of the employees before, during, and after the trip, for instance, by taking in consideration the political environment in the travel destination. The social aspect of corporate travel policies is followed by economic reasons and savings in travel expenditure. As the third reason, the company highlights the environmental motives, for example, by taking direct flights to destinations.

Additionally, company D has introduced local corporate travel policies with the most important intention to control the cost element of travel. However, company D highlights that nowadays the environmental aspects are becoming more and more important. Also, the social reasons are considered in the policies, as they intend the employees to balance their work and private life and, on the internal level, to influence the personnel's travel decisions. For example, employees may use public transportation to travel shorter distances and pay attention to the undesirable aspects of transport by decreasing the amount of travel in general and encouraging personnel to use virtual communication methods.

5. DISCUSSION AND ANALYSIS

In this chapter of the thesis the findings are analysed and combined to the theory represented in the literature review. The purpose is to identify the practices that affect business travel and virtual communication from the Finnish perspective and to analyse how companies that operate in Finland handle their relations abroad. To further analyse the variations and similarities in company perceptions, the company size and industry should be noted: company A is a software business and significantly smaller than the other interviewed companies. Company C is also a software operator, whereas company B is a tele operator and company D an insurance company.

The discussion and analysis section of the thesis is divided into four sections. The first section will consider the economic relationship between corporate travel and virtual communication methods and how much each one is used in the companies interviewed. Additionally, the section considers the corporate travel policies from the economic standpoint. The economic relationship section is followed by social applications and environmental aspects. Finally, limitations and errors that might have occurred in the data collection and analysis process are identified.

5.1. The economic relationship between travel and virtual communication

As discussed in the literature review, the amount of global business travel is increasing annually, reaching \$1.6 trillion by 2020 (GBTA, 2016a) as companies highly value the benefits of in-person meetings. Indeed, the interviewed companies perceived that the travel expenditure is a norm in order to conduct business internationally as personal interaction with clients was considered to provide more efficient cooperation in the future. Nevertheless, companies elaborated that travel expenditure could be lower. Additionally, cost-effectiveness was highlighted to be an important part of efficient travel management.

However, virtual methods for communication are highly used in companies around the world. Indeed, different platforms and new technological innovations provide more options for companies to interact with one another. Concerning this, the interviewed companies provided interesting perceptions of the amounts of business travel and virtual communication, and also the benefits and limitations of both communication methods. All the interviewed companies had noticed changes in the amount of business travel as they considered that virtual methods had substituted some of the travel, even though the amount of substitution varied between the companies. Also, the substitution was most considerable in internal operations, as all reflected that virtual methods had increased work efficiency. Daily operations were considered to be easier to handle virtually on the internal level, but also in some cases externally.

In company A, the amount of travel had decreased only slightly, whereas in company B the travel had decreased significantly during the last five years. Companies C and D stated that the amount of travel had been stable during the past five years. Considering that company B operates in teleoperations and provides better solutions for tele- and virtual communications, they also should use these technologies themselves and thus have a significant reduces in the amount of travel. They also had the most virtual communication platforms available for the employees (tele- and video conferencing, Skype and telepresence). As already discussed in the literature review, a few corporations have cut back on travel spending through a combination of videoconferencing, telepresence and everyday technologies. As it seems, only one of the interviewed companies had been able to do noteworthy cut-backs on their travel expenditure. Therefore, it can be argued that the study of Finnish companies' use of virtual methods supports the presented hypotheses in the literature review of the complementary relationship.

Additionally, the platforms used to substitute travel included Skype for Business, screen-sharing possibilities, teleconferencing, video conferencing, telepresence and Google Hangouts. The reasons for the usage of these platforms were the easiness of use, efficiency, work maximization and cost-effectiveness. The literature review highlighted also time savings, reductions in travel expenditure, effective communication with co-workers and stakeholders, efficiency improvements and

greener solutions as motives for the use of virtual communication. Indeed, all four companies interviewed for the thesis stressed that the expenditure concerning virtual communication was inexpensive in comparison with physical travel.

As described earlier, the purpose of business travel is to move know-how to subsidiaries and to form and maintain business relationships in different locations (Anon, 2010; Enoch et al., 2002; Hausmann, 2016). Interviewed companies' perceptions supported this statement, as the interviewees highlighted three important objectives for travel; working for or with clients, sales work in events and internal travel. Interestingly, internal travel was emphasized to be one of the main reasons for travel in companies D and C, even though internal travel was simultaneously the area of travel where all the companies had been able to substitute. Similarly, use of tele- and videoconferencing platforms in internal meetings has been found to be a good substitute for physical travel in earlier studies.

To analyse further, internal travel might have been a significant expenditure in the companies, but as the virtual methods have developed and larger-scale intranets have been introduced, internal travel has been the easiest to substitute. Indeed, virtual methods have enabled companies to control internal business operations and approach colleagues in different locations effortlessly. However, all interviewed companies highlighted the importance of personal meetings even if the travel to meet clients or possible new business partners would bring additional expenditure to central the company. The companies expressed that some of the aspects of face-to-face meetings could not be substituted by virtual communication, as long as the key objective of in-person meetings is to create more sales and build valuable customer relationships. Supporting Anonymous' (2010) argumentation in the literature review, Companies C and D emphasised the importance of return on investment (ROI) concerning business travel, as they believed that more could be sold to customers when employees visited the clients personally.

Moreover, corporate travel policies were introduced in three of the companies to control the economic costs of travel, in addition to social reasons and finding greener solutions. As stated in the literature review, the economic goal of travel policies is to limit the frequency of travel and control the cost of airline tickets and accommodation

in travel destinations (Mason, 2001). All three companies stated that corporate travel policies had been introduced mainly due to the economic reasons. Additionally, company A stated that the motive for choosing inexpensive travel options was economic, even though the company had not introduced specific travel policies. Cost-effectiveness was also an objective in the other companies' corporate travel policies. In company B, the purpose of travel policies was to control the negative economic and environmental implications with better solutions for virtual communication. In company C the primary option for meeting was always virtual and clear instructions for when to travel were stated in the travel policies. Company D had introduced travel policies in order to control travel expenditures. As a result of this, it can be argued that the main reason for corporate travel policies is economic and to control the cost element of travel while encouraging employees to the efficient use of virtual communication systems.

5.3. The social relationship between business travel and virtual communication

The literature review and interview findings emphasized two main aspects of social implications concerning business travel and use of virtual communication methods: personal life and work life of the employees. These implications are further analysed separately in the following.

From the social aspect, a number of different perceptions were raised during the company interviews concerning personal life of the employees and the impacts of travel on it. Both negative and positive effects of travel were discussed from the employees' personal viewpoints. Three of the interviewees stated that an employee's personal life might suffer because of busy travel schedules and limited time available for family and hobbies. Indeed, the interviewees considered having a balance between work and personal life as one of the main benefits of virtual communication from the social viewpoint. All in all, all interviewed companies clearly recognized limitations of the time available: by operating more virtually, employees would have more free time after work. This factor was also discussed in the literature review, as research had shown that life quality, as well as professional performance, increase

when better virtual communication services are introduced and taken as a part of daily work (Halme et al., 2000; TelecomWeb News Break, 2007).

However, company D had different opinions on the time aspect, as they argued that building confidential relationships would be more time-consuming if only virtual platforms were available. The opposite argument proposes that the managers in company D valued more the importance of other person's unconscious signals and gestures as part of communication and the significance of building trust, as trust-building was one of the main arguments that the company raised during the interview. Therefore, a conclusion can be drawn that the perceptions of companies with operations in Finland support the earlier findings in the field.

Earlier scholarly studies by Lassen (2009), Beaverstock et al. (2009) and Molinsky et al. (2016) had also found that people like to travel as it gives people important personal experiences and deepens awareness of different cultures and backgrounds. Likewise, the manager of company C mentioned this during the interview, as they considered that work satisfaction increases if the job included some amount of travel. On the basis of these interviews, a clear conclusion cannot be drawn whether travel affects employees' life positively or negatively since individuals have different perceptions about travel depending on their family situations and possibilities to travel.

Also, the factors related to work life and social interaction were discussed during the interview process. Companies highlighted that even though travel can be time-consuming, it is profitable and inevitable in a sense of being able to create and manage important customer relationship. The interviewees thought that it is important to have a meeting in the beginning of a new project as it becomes more effortless to communicate virtually after the people had met personally at least once. This was considered to be important because more meaningful relationship could be built when people were able to see others' gestures and motions in a personal meeting. Moreover, the challenges related to language barriers and miscommunication are easier to avoid and the understanding of client needs and wants increases when people have met personally. Supporting arguments were introduced in the literature review. Hausmann (2016), Forbes (2009) and Aguilera

(2008) discussed in their papers that when the complexity of discussed topic increases there is more need for face-to-face communication where peoples' unconscious communication could be used to better understand the targets and wants, thus building more valuable relationships.

When the formality of virtual communication was discussed, attitudes varied between the interviewees. Companies A and B told that virtual communication is mainly formal. As they stated, the important part of communication is missed when using tele- or videoconferencing, as meetings have clear start- and endpoints. The formality issue could also be raised while analysing the tasks and meetings where companies chose to use virtual methods while communicating with one another. Aforementioned in the findings, virtual methods were used to conduct daily business activities with clients and subsidiaries, as well as some of the contract negotiations and weekly or monthly project meetings. To summarize, companies A and C identified that virtual meetings tend to focus on the business aspect. Confirming arguments were presented by Derudder et al. (2011), who stated that the benefit of virtual methods is indeed its' practical and formal approach to business since it is used to have task meetings and distribute and prepare work assignments. Clearly, the interviewees saw the formal aspect as the main part of virtual communication. However, company D identified that a virtual meeting can also be informal, as virtual coffee meetings were used in some teams internally. They highlighted that in a virtual coffee meeting, or by sending emails or chat messages, the informality increases as all kinds of questions could be raised in a more comfortable environment. This argument was supported in the literature by Santra et al. (2009) who argued that some information would not otherwise be transmitted as the electronic systems decrease the organizational barriers. Cultural differences may also affect which communication method is considered to be most comfortable to use. For example, in Nordic countries, people like to have their own space and thus feel more comfortable to contact co-workers virtually.

5.4. Environmental aspects

The companies had a clear understanding that CO₂ emissions were the greatest impact of travel to the environment, as all interviewed companies analysed this as the main expenditure concerning the environment. The companies had also identified that the most significant CO₂ emissions came from flying. Supporting arguments were presented in the literature review, as CO₂ emissions from air trafficking are the biggest threat to climate change (Halme et al., 2001; Lassen, 2009; Derudder et al., 2011; McManners, 2012). Indeed, greenhouse gas emissions as well as energy consumption could be decreased if alternative communication methods replaced some of the travel (Salomon, 1985). All the interviewed companies agreed with this argument since they recognized that environmental concerns are at minimum while choosing virtual methods instead of physical travel.

Like discussed in the literature review, being more environmentally sensitive has become imperative in corporations (LaBrosse, 2010). The findings supported LaBrosse's argumentation, as three of the four companies had introduced Codes of Conduct in their businesses to ensure environmental thinking while conducting business. The three companies that had Codes of Conduct for traveling were the three biggest companies interviewed, which all had over 5000 employees. In the smaller company A, such policies were not introduced as they were considered to constrain business opportunities. Additionally, introducing such policies would only make a slight difference since the company was traveling less in comparison with the other three companies.

As argued in the literature review, environmental issues can be a strategic interest for companies (McKenzie, 2008; Beaverstock et al., 2009) and improve the image of a corporation by choosing greener solutions (Greene, 2008). By analysing the findings, environmental factors are a strategic interest in company B, where travel had been cut down the most and environmental aspects were considered thoroughly during the interview process. Additionally, companies C and D had policies concerning the environment, but they were the most highlighted in company B where also the substitution level of virtual communication was the largest. In addition, the

environmental objective of company D was to be CO₂ neutral and compensate for the emissions related to travel.

Denstaldi (2004) reported in his study that environmental aspects are considered unimportant in companies when analysing the reasons for international travel reduction. LaBrosse (2011) concluded that the biggest challenge is to set a green mind-set within companies when cost-benefit analysis does not show the longer-term benefits of sustainability. However, in their research, Derudder et al. (2011) discussed how environmental awareness has increased in corporations as the climate crisis has become a significant global threat. The findings supported the scholarly argumentation, since company D reported that they focus on raising awareness of environmental standpoints by providing greener alternatives for employees to travel shorter distances.

5.5. Limitations of the analysis

Some errors might have occurred in the data collection process. First of all, as the interview questions were translated to and presented in Finnish, some translation errors might have arisen. However, the interview questions were also available in English for the interviewees. The purpose of the Finnish translations was to generate a more functioning interview setting as both the interviewer and interviewee could use their native language and give thus the best wording for their meanings. Furthermore, the number of businesses that participated in the research was relatively low and focused on only a few industries. Consequently, the overall perception of Finnish business travel and use of virtual communication methods cannot be drawn from this study. However, some conclusions can be obtained about the processes in which communication method is chosen while conducting business both domestically and internationally. Moreover, as no actual data of the numbers relating to the amount of business travel and virtual communication, for example travel expenditures, was available for this study, it is impossible to have a better understanding of the economic reasons behind of communication choices of business travel and use of virtual communication in companies operating in Finland.

6. CONCLUSIONS

6.1. Main Findings

Aforementioned, the earlier scholarly research in the field has identified that virtual communication and business travel are used to conduct business both internationally and domestically. Both methods have their own benefits and limitations. Also, in order to do business in today's business environment, business travel and virtual communication are vital when considering internal and external relationships of a company. The economic, social and environmental implications determine which method should be used in each situation, but approaches seem to be equally important to handle different kinds of business situations. Indeed, the Finnish companies interviewed had a clear understanding of all the aspects related to travel and virtual communication, as their methods of use and argumentation followed the general alignment discussed also in earlier literature.

In bigger companies, corporate travel policies appear to be a "must-have" to control the amount of travel from the economic, social and environmental standpoints. However, the main reason for policies remains to be economic, even though the environmental aspects have increased their value during recent times. The economic reasons include efficiency at work, time management and expenditure savings. However, as highlighted by the companies and earlier literature, travel continues to be inevitable in the business environment, since virtual communication methods cannot yet substitute some aspects of communication and business management.

6.2. Implications for International Business

Online communication services have developed significantly during recent decades. The usage of online communication systems in business would seem to be the most natural movement, as information moves within seconds online. Also, as different online platforms for communication are well-developed and easy to use, it would seem to be the most efficient way to communicate in today's intergraded and global business environment. However, the usage of business travel has been growing, even though these online platforms are available with low costs, and the transition to

online communications has been slow. As traveling has higher economic and environmental costs than online communication, it is important to figure out why companies choose to communicate with their customers and clients face-to-face and accept the higher costs that are linked with it.

6.3. Suggestions for Further Research

As mentioned before, the number of the companies that participated in the interviews was limited. In order to conduct a more thorough study in the field, more companies from multiple different industries should be interviewed to collect more trust-worthy information. Additionally, this study had its main focus on IT companies which use virtual communication methods on an everyday basis and understand the importance of virtual communications usage as they operate in the industry. To conduct more in-depth studies, some aspects from the other industries where the virtual communication might not be as relevant is needed.

REFERENCES

- Aguilera, A. (2008) 'Business travel and mobile workers.' *Transportation Research Part A: Policy and Practice*; 42 (8): 1109-1116. Retrieved from: ScienceDirect Database [Accessed on 28 December 2016]
- Anon., (2010) 'The End of Business Travel? Videoconferencing Revolution and the Effect on Air Travel and Lodging'. *Black Book – The Long-View: 2010 Edition – U.S. Perspectives*; 207-216. Retrieved from: EBSCOhost, Business Source Complete [Accessed on 21 November 2016]
- Arnalk, P. & Kogg, B. (2003) 'Service transformation – managing a shift from business travel to virtual meetings.' *Journal of Cleaner Production*; 11 (8): 859-872. Retrieved from: ScienceDirect Database [Accessed on 24 January 2017]
- Barfield, W. and Furness III, T. (1995) *Virtual environments and advanced interface design*. New York: Oxford University Press.
- Beaverstock, J. (2010). *International business travel in the global economy*. 1st ed. Farnham, Surrey: Ashgate.
- Beaverstock, J. V., Derudder, B., Faulconbridge, J. R. and Witlox, F. (2009) 'International business travel: some explorations.' *Geografiska Annaler: Series B, Human Geography*; 91: 193–202. Retrieved from: Wiley Online Library [Accessed on 23 January 2017]
- Business Traveller (2016) *Risky Business?*. Available at: https://webcache.googleusercontent.com/search?q=cache:wMNqVQI_fYJ:https://www.internationalsos.com/~media/corporate/files/documents/coverage/business-traveller-0316.pdf+&cd=1&hl=en&ct=clnk&gl=fi [Accessed on 23 January 2017]
- Brightcom (n.d.) *Minimizing operational costs: an in-depth comparison between business travel and telecommunication alternatives of telepresence and videoconferencing systems*. Available at: <https://www.ivci.com/wp->

<content/uploads/2016/07/whitepaper-business-travel-vs-telecommunications-brightcom.pdf> [Accessed on 24 January 2017]

Brightcom (2010) *Businesses around the globe promote earth day with BrightCom telepresence and video conferencing*. Available at: <https://www.thefreelibrary.com/Businesses+Around+the+Globe+Promote+Earth+Day+with+BrightCom...-a0228280858> [Accessed on 24 January 2017]

Clemons, E., Reddi, S. and Row, M.C. (1993) 'The impact of information technology on the organization of economic activity: The "move to the middle" hypothesis.' *Journal of management information systems*; 10 (2): 9-35. Retrieved from: Taylor & Francis Online Databased [Accessed on 23 January 2017]

Coddington, P. (1993) 'The impact of videoconferencing on airline business traffic.' *Journal of Travel Research*; 32 (2): 64-66. Retrieved from: SAGE Journals Database. [Accessed on 23 January 2017]

Collis, R. (2001) *The frequent traveler: Businesses strive to stop costs taking off*. The New York Times. Available at: <http://www.nytimes.com/2001/01/05/style/05iht-trfreq.t.html>. [Accessed on 23 January 2017]

Denzin, N. and Lincoln, Y. (1994). *Handbook of qualitative research*. SAGE publications, Inc.

Denstadli, J. (2004) 'Impacts of videoconferencing on business travel: the Norwegian experience.' *Journal of Air Transport Management*, 10 (6): 371-376. Retrieved from: ScienceDirect Database [Accessed on 8 December 2016]

Denstadli, J. Julsrud, T. and Hjorthol, R. (2012) 'Videoconferencing as a mode of communication: a comparative study of the use of videoconferencing and face-to-face meetings.' *Journal of Business and Technical Communication*, 26 (1): 65-91. Retrieved from SAGE Journals Database [Accessed on 24 January, 2017]

Denstadli, J. Gripsrud, M. Hjorthol, R. and Julsrud, T. (2013) 'Videoconferencing and business air travel: Do new technologies produce new interaction patterns?'. *Transportation Research Part C: Emerging Technologies*, 29: 1-13. Retrieved from: Science Direct Database [Accessed on 28 December, 2016]

Derudder, B. and Witlox, F. (2011) 'International Business Travel in the Global Economy.' *Geografiska Annaler: Series B Human Geography*, 93 (4): 340-342. Retrieved from: Wiley Online Library Database [Accessed on 27 November, 2016]

Douglas, A. and Lubbe, B. and Fabris-Rotelli, I. (2013) 'Travel or technology? Business factors influencing management decisions.' *South African Journal of Economic and Management Sciences*, 16 (3): 279-297. Retrieved from: Scielo Database [Accessed on 28 December, 2016]

Enoch, M. Hesse, M. and Knowles, R. (2012) *Transport and mobility: sustainable transport, mobility management and travel plans*. United Kingdom: Ashgate Publishing Limited

'*Business meetings: The Case for Face-to-Face*' (2009) Forbes. Available at: http://images.forbes.com/forbesinsights/StudyPDFs/Business_Meetings_FaceToFace.pdf [Accessed on 12 December, 2016]

Global Business Travel Association (2016a) *Annual global report & forecast prospects for global business travel 2016-2020*. Available at: http://www.gbta.org/foundation/pressreleases/Pages/rls_0711162.aspx [Accessed on 20 November, 2016]

Global Business Travel Association (2016b) *Global BTI Preview*. Available at: <https://hub.gbta.org/groups/reviews/item/20/11/2368> [Accessed on 24 January, 2017]

Goncalves, P., Ferreira, L., Goncalves, J., Putnik, G. and Cruz-Cunha, M. (2014) 'Direct communication versus virtual communication in virtual teams.' *Procedia*

Technology, 16: 3-10. Retrieved from: Science Direct Database [Accessed on 19 January, 2017]

Greene, T. (2008). 'Selling the green side of telepresence.' *Network World*, 25(9): 14-29. Retrieved from: EBSCOhost, Business Source Complete [Accessed on 22 December, 2016]

Halme, K. Lindy, I. Piirainen, K. (2014) *Finland as a Knowledge Economy 2.0*. Washington D.C.: The World Bank

Harvard Business Review (2009) *Managing across distance in today's economic climate: The value of face-to-face communication*. Available at: https://hbr.org/resources/pdfs/comm/british-airways/hbras_ba_report_web.pdf [Accessed on 27 November, 2016]

Haynes, P. (2010) 'Information and communication technology and international business travel: mobility allies?' *Mobilities Journal*, 5(4): 547-564. Retrieved from: Taylor & Francis Online Database [Accessed on 23 January, 2017]

Halme, M., Heiskanen, E., Jalas, M., Kärnä, A. and Lovio, R. (2001) *Dematerialization: The Potential of ICT and Services*. Available at: https://helda.helsinki.fi/bitstream/handle/10138/40648/FE_533.pdf?sequence=1 [Accessed on 9 December, 2016]

Himanen, V., Lehto, M. and Mannermaa, M. (2000) *Viesti ja matka kulkevat omia teitään. Tieto- ja viestintätekniiikan vaikutus matkustamiseen. (The message and trip go their own ways: The influence of information and communication technology on travel)*. Available at: https://www.lvm.fi/documents/20181/819315/1_20_2002.pdf/f9a34675-6952-4039-be62-d549259f2deb?version=1.0 [Accessed on 26 January, 2017]

Jin-Long, L. and Srinivas, P. (2009) 'Analysis of the factors that influence the relationship between business air travel and videoconferencing.' *Transportation*

Research Part A: Policy Practice, 43(8): 709-721. Retrieved from: Science Direct Database [Accessed on 28 December, 2016]

Kydd, C. and Ferry, D. (1994) 'Managerial use of video conferencing.' *Information and Management*, 27(6): 369-375. Retrieved from: ScienceDirect Database [Accessed on January 21, 2017]

LaBrosse, M. (2010) 'Incorporating green in project management. *Employment Relations Today (Wiley)*, 37(3): 85-90. Retrieved from: EBSCOhost, Business Source Complete Database [Accessed on 21 November, 2016]

Lassen, C. (2009) 'Networking, knowledge organizations and aeromobility.' *Geografiska Annaler: Series B, Human Geography*, 91(3): 229-243. Retrieved from: Wiley Database [Accessed on 26 January, 2017]

Mahmood M. and Mann, G. (2009) 'Information technology investments and organizational productivity and performance: an empirical investigation.' *Journal of Organizational Computing and Electronic Commerce*, 15(3): 185-202. Retrieved from: Taylor & Francis Online Database [Accessed on 24 January, 2017]

Mason, K. (2002) 'Future Trends in Business Travel Decision Making.' *Journal of Air Transportation*, 7(1): 47-68. Retrieved from: NASA Technical Reports Server Database [Accessed on 8 December, 2016]

Mason, K (2001) 'Marketing low cost airline services to business travellers.' *Journal of Air Transport Management*, 7(3): 103-109. Retrieved from: ScienceDirect Database [Accessed on 23 January, 2017]

McKenzie, B. (2008) *Will the benefits of communicating face-to-face drive widespread adoption of telepresence for use in commercial negotiation?* Available at: https://works.bepress.com/brian_mckenzie/1/ [Accessed on 24 January, 2017]

McManners, P. (2012) *Fly and Be Damned: What Now for Aviation and Climate Change?* United Kingdom: Zed Books.

Meleo, L. Consuelo, R. Pozzi, C. (2016) 'Aviation and the costs of the European Emission Trading Scheme: The case of Italy.' *Energy Policy*, 88: 138-147. Retrieved from: ScienceDirect Database [Accessed on 28 December, 2016]

Miles, M. and Huberman, A.M. (1994). *Qualitative data analysis: A sourcebook*. Beverly Hills: Sage Publications.

Molinsky, A. and Hahn, M. (2016) *The hidden benefits of short-term business travel*. Available from: <https://hbr.org/2016/06/the-hidden-benefits-of-short-term-business-travel> [Accessed on 12 December, 2016]

Romm, J., Herrmann, S. and Rosenfeld, A. (1999) *The Internet Economy and Global Warming: A scenario of the Impact of E-commerce on Energy and the Environment*. Available at: <http://infohouse.p2ric.org/ref/04/03784/0378401.pdf> [Accessed on 31 January, 2017]

Roos, G. (2009) *Sustainability Initiatives Cut Costs by 6-10%*. Available at: <https://www.environmentalleader.com/2009/06/sustainability-initiatives-cut-costs-by-6-10/> [Accessed on 31 January, 2017]

Salomon, I. (1985) 'Telecommunications and travel relationships: a review.' *Transportation Research Part A: General*, 20(3): 223-238. Retrieved from: ScienceDirect Database [Accessed on 22 January, 2017]

Santra, T. and Giri, J. (2009) 'Analyzing Computer-Mediated Communication and Organizational Effectiveness.' *Review of Communication*, 9(1): 100-109. Retrieved from: Taylor & Francis Online [Accessed on 23 January, 2017]

Swarbooke, J. and Horner, S. (2001). *Business Travel and Tourism*. Oxford: Butterworth-Heinemann.

Welch, M.L. (2012) 'Exploring the Impact of Communication Technologies on Business Air Travel.' *Journal of Organizational Culture, Communication and*

Conflict, 18(1): 187. Retrieved from: ProQuest Database [Accessed on 28 December, 2016]

Winston, A. (2009) *Will videoconferencing kill business class travel?* Available from: <https://hbr.org/2009/08/will-videoconferencing-kill-business-class> [Accessed on 20 November, 2016]

Wolgemuth, L. (2008) 'Knights of the virtual table.' *U.S. News & World Report*, 144, 48. Retrieved from ProQuest Database [Accessed on 22 December, 2016]

Yin, R (2013). *Case study research: Design and methods*. Sage publications.

APPENDICES

Interview questions

1. Has there been any major changes in your company's travel patterns during the last five years? Are you traveling more/less?
2. What is the primary reason for business travel in your company? Do you travel in order to meet clients, to meet people in subsidiaries or other reasons?
3. Has the use of virtual communication generated more/less travel?
4. Is there some kind of business travel that you have been able to substitute by virtual communication?
5. Do you think there are negative implications related to business travel from the environmental point of view? Does virtual communication, in your opinion, limit the negative impact of travel? Why/Why not?
6. Is virtual communication the way to reduce the environmental impacts of business travel?
7. What do you consider are the biggest benefits of virtual communication from the environmental aspect?
8. Does your company have corporate travel policies in order to control the amount of business travel? What is the goal of corporate travel policies in your company? Social, environmental or economic
9. If your company have corporate travel policies, do they intensify people to use more virtual communication?
10. Do you see any social implications related to business travel?
11. What could be the result from moving from business travel to virtual communication from the social aspect?
12. What do you consider are the biggest benefits of business travel from the social aspect?
13. What do you consider are the biggest benefits of virtual communication from the social aspect?
14. How much your company uses face-to-face meetings internationally/travels in order to conduct business?
15. What is your perspective on the cost of travel? Are the costs related to travel high in your company? What about virtual communication?

16. Are there any characteristics regarding business travel and face-to-face meetings that you could not substitute with virtual communication? What is that you can do with business travel that you could not do with virtual communication?
17. What do you consider are the biggest benefits of business travel from the economic point of view?
18. What do you consider are the biggest benefits of virtual communication from the economic point of view?
19. Have you substituted some of the travel with virtual communication? Examples? What kind of virtual communication platforms have substituted business travel?