



THE EFFECT OF TELECOMMUTING ON COMPETITIVE ADVANTAGE WITH A MEDIATING EFFECT OF ENVIRONMENTAL SUSTAINABILITY

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Abstract: Telecommuting has been the latest trend in the work world. This has come into emergence due to the COVID pandemic which has caused an upheaval in work practices. It has an effect on the environment and in turn it eventually impacts the competitive advantage of the firm. Telecommuting is said to have a positive impact on the environment by way of reduced greenhouse gas emissions, less paper usage and improved quality of air and hence it was supported by most of the environmentalists. This study aims to explore the influence of telecommuting on the competitive advantage of the firm by way of environmental sustainability. The study data was collected through a systematic literature review. The results demonstrated that Telecommuting had a positive effect on the environment, ultimately enabling the organisations to gain a competitive edge over their competitors.

Index Terms - Competitive edge, environmental sustainability, positive impact, telecommuting.

Introduction

Telecommuting has been a trending term in the late as it has been used by most of the organisations. Telecommuting in simple terms, means working from home with the help of technology. It has emerged due to the advent of COVID pandemic. In order to stop or prevent the spread of disease, the Government has ordered the organisations to shut down the place of work and hence, organizations had no other choice but to make employees work from their own homes as safety of the employees was the first priority. Telecommuting has many positive impacts on the environment and for the society as a whole. Telecommuting tends to have a positive effect on the environment such as reduced emissions of greenhouse gas due to less usage of vehicles, reduce in the usage of fossil fuels, less air pollution and less paper usage (Denise Mai, 2021). Telecommuting has also been identified to have significant impact on reduction in urban congestion and also environmental benefits (Magnus Moglia, 2022). Working remotely is a future of sustainability. Shifting to telecommuting helps companies not only to improve productivity but also it can contribute to a greener and a more sustainable future for our forthcoming generations. Telecommuting can also contribute to sustainable environment by reducing the emission of greenhouse gas emissions and also it helps in slowing down global warming. Telecommuting is one of the most required and most invited behavioural change that is essential to achieve zero emissions in the next 30 years (Arian Millot, 2022). Telecommuting avoids travelling to work which saves time as well as transportation cost and less commuting leads to lower greenhouse gas emissions (Sanchi, 2020). Telecommuting has elucidated the importance of how telecommuting is an effective strategy to reduce the greenhouse gas emissions. However, its success depends on various factors such as place, source of energy and electricity demand (Cruikshank, 2020). Telecommuting contributes to less fuel consumption and also it becomes responsible for emitting fewer greenhouse gas emissions. On an average, the consumption of fuel is

nearly less than 17 % on days when employees are working from home (Zaharia A and Diaconeasa 2019). If teleworking has been well organised and properly implemented it has the potential to reduce the consumption of energy and other harmful gas emissions (Oltra and Jean, 2009). Telecommuting has seen to be a more sustainable mode of working as compared to travelling to office as it has reduced the dependency on transportation and the office space has also been reduced (William O'Brien and Fereshteh Yazdani, 2020). There are also other benefits of teleworking other than sustainable advantages, such as better work life balance, good job satisfaction and increase in productivity which eventually leads the company to gain a competitive advantage (Pyoria, 2011). Telecommuting provides companies with an advantage of reduced costs and also decreased labour turnover which in turn helps the companies to gain a competitive edge over the competitors. Hybrid work model can help companies enhance their competitiveness and provide greater values to their customers (Gant, 2022). One of the key principles of work from home is allowing flexibility for the employees in this hybrid work model which builds up the competitive advantage of the organisation (Ben Fanning, 2020). Environmental sustainability strategies in the firm are useful for the businesses to gain competitive advantage and helps to build a good reputation among the customers. Telecommuting has been profitable for the organisations also and it provided various cost reductions for the organisations such as reduction in electricity cost and reduced office usage. Telecommuting is undoubtedly a win – win strategy for the employees and the employers but it also has a positive impact on the environment too (Sanchi, 2020).

The purpose of the article is to explore the impact of telecommuting on competitive advantage with a mediation of environmental sustainability. In this article, the researcher aims to achieve the purpose through a systematic literature review of existing articles after which the results of the study are concluded.

I. CONCEPTUAL FRAMEWORK

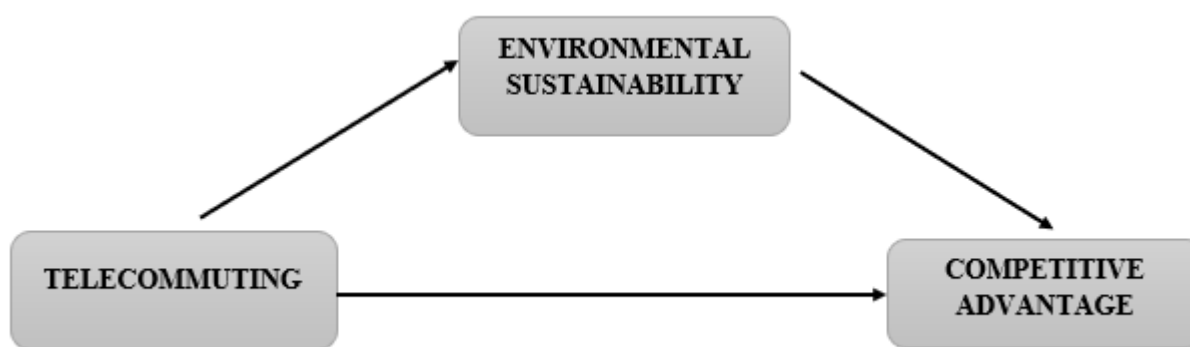


Figure 1.1 Conceptual Framework

II. LITERATURE REVIEW

3.1 Telecommuting Impact on Environmental Sustainability

Teleworking or telecommuting has said to have a positive effect on the environment in ways such as reduction in greenhouse gas emissions and less usage of paper and hence it has been happily accepted and invited by most of the environmentalists has been revealed from a study made by Pengyu Zhu and Susan Mason (2014). According to Buttner and Breitkruze (2020), the intense shift from traditional work methods to telecommuting has increased the hope for targets set in reducing the carbon dioxide emissions as a result of less travelling. Apparently, telecommuting can reduce CO₂ emissions by reducing the usage of fossil fuels as there is reduction in commuting since transport sector is the main source greenhouse gas emissions. (Marz and Sen, 2022).

Making a critical review of various quantitative and research methods data, and using four domains namely homes, ICT, office buildings and transportation, the study concluded that there has been a reduce in the energy usage and reduced greenhouse gas emissions due to work from home (William O'Brien and Fereshteh Yazdani, 2020). Teleworking being a new method of working emerged due to situations and with the help of ICT, there has been positive effects of telework on the environment that has been noticed. By reduce in travelling from home to workplace, there has been lower consumption of work materials, electricity and also telecommuting can become more sustainable when compared to office working if it can be carried out in a planned and systematic manner in the organisations (Srdana Taborosi and Biljana Maljagic, 2021). Paul O' Keefe and Brian Caufield (2016), made a study on the impacts of telecommuting. The researcher has said that telecommuting is been perceived as an effective means of reducing travel time and emissions. And also, the researcher stated that with the advancement in technology, telecommuting is becoming a good

option for both the employers and employees in order to implement. The study concluded that there is substantial reduction in carbon emissions.

Assessing the impact of telecommuting on energy consumption and greenhouse gas emissions, Jamal and Khan (2022), stated that adopting telecommuting will lead to a reduction in the greenhouse gas emissions and will benefit the society as well. It tends to reduce the adverse effects on the environment. Feng and Guo (2022), assessed the impact of telecommuting on energy and emissions. The researchers stated that telecommuting is viewed as a sustainable way of working which reduced the consumption of energy and leads to reduction in greenhouse gas emissions. Riccardo Geccato and Andrea Baldassa (2022), in their study that aimed to understand and estimate the long-term impacts of teleworking on the environment which has been caused due to the pandemic and the results concluded that reduction in the daily travel, has effectively paved way towards a sustainable environment. In a study conducted by Ramin Shabanpour and Numa Golshani (2018), they analysed the telecommuting impacts on the environment and it aimed at developing an integrated framework to provide the impacts of telecommuting on network congestion and the quality of air. The study concluded that telecommuting has the potential to reduce emissions from vehicle and also reduce network congestions.

Andrew Hook and Victor (2020), has made a systematic review of the climatic and energy impacts of telecommuting. The study aimed at finding the extent to which telecommuting reduces the travelling to work and consequences on economy wide energy consumption. The results stated that the energy saved by teleworking is mostly equal to that of the energy consumption during work from home itself. Darell Norman and Marybeth (2014), conducted an applied research study on teleworking as an environment friendly practice and sustainable practice. This article aims at analysing telework as a convenient way to encourage environmental sustainability. The study found out that teleworking contributes to reduction in carbon dioxide emission and greenhouse gas emission through less travelling and eventually promoting sustainability.

Jan CT and Mattias Hojer conducted an assessment of the energy impacts of telecommuting based on time usage data. The study used a time usage approach in order to assess and compare the changes in travel time and time spent in non-travel activities and energy impacts associated with that. This study found out that substitution of travelling with many other non-travel activities is likely to reduce the direct energy consumption. In a study conducted by Ying Chein (2019), the researcher's aimed at teleworking and its impact in promoting environmentally sustainable practices. The study concluded that teleworking contributed to sustainable environment through possible reduction in travel needs and the society also benefitted from reduced traffic and reduced usage of energy and emission reduction.

3.2 Environmental Sustainability and Competitive Advantage

Ecological sustainability is a significant contributor in providing competitive advantage by uplifting the efficiency of the organisation, attracting customers and acquiring the opportunities at the right time (Walsh and Dodds, 2017). Study made among leaders proposes the idea that promoting ecological sustainability will set higher standards for performing sustainably, search for opportunities based on sustainability on purpose and instil an ecologically sustainable mindset among the workers (Metz et. al., 2016). Problems concerning the environment such as energy consumption, pollution and consumption of natural resources tend to change the competitive perspective in most of the industries (Shrivatsava, 1995). Nowadays, firms are constantly searching for opportunities that provides a solution for accelerating environmental problems. And hence, the businesses are inventing and introducing new business models that blend ecological sustainability into the fundamental processes of the organisation (Rosen, 2001).

Exploratory research that identified the relationship between environmentally sustainable business practices and competitive outcomes, the researcher stated that being ecologically responsible in the organisation's products, services and processes for reasons including competitive advantage and public reputation of the company (Rusinko, 2007). Adopting and implementing sustainable business practices both internally and externally will eventually enhance the sustainable outcomes and also contribute to the improvement of operational performance of the organisation as well as competitive advantage of the firm (Ahmadi – Gh and Pintado, 2022).

In an empirical study made between sustainability and competitive advantage, the companies that play ecologically safe, perform well and also are highly competitive between their competitors in the same industry (Gupta and Benson, 2011). When companies follow environmentally friendly strategies, it helps the company gain a competitive advantage and also enable them to gain satisfaction of their stakeholders (Berzengi and Lindbom, 2008). One of the ways to achieve competitive advantage for any organisation is by creating a business that is environmentally sustainable (Cooper, 2021).

3.3 Telecommuting and Competitive Advantage

Offering hybrid model of work to the employees provides an opportunity for the businesses to take it to the next level thereby improving the competitive edge (Magazzo,2021). While companies take effort to make the telecommuting relationships define their expectations more clearly, communicate directly and on the whole provide a good experience for the employees, which inturn will act as a advantage that delivers competitiveness to the organisation (Madell, 2020).

The employees of the company become the competitive advantage especially during telecommuting they contribute innovative solutions to solve problems and delivers extraordinary customer service (Brandau, 2019). Telecommuting has various benefits that makes the organisations to search for various opportunities to exploit its innovation capacity so that it would serve as a source of advantage that provides competitiveness ((Karia, 2016).

The shift to telecommuting impacted all the business processes which included the productivity, performance, engagement of the employees and also had an impact on the customer experience. Those businesses who construct themselves a better remote working strategy, will exceed their competitors and perform well (Cisco, 2021). If the companies grasp the change, they can gain advantage over their competitors by sourcing the finest talents, boosting the employee morale and reducing costs (Lieb, 2021).

Employers are seeing remote working as a vital part to hire and retain best talent and save business cost eventually staying competitive in their industry (Wework, 2020). Telecommuting helps the organisation to retain the best talent inturn turnover is reduced and also ensuring that the right person stays will gain competitiveness for the organisation among their competitors (mbaknol, 2020).

III. RESEARCH METHODOLOGY

The study is descriptive in nature. A systematic literature review was conducted summarizing existing evidences and studies made on telecommuting, business and the environment. The resources accessed for the study constitutes a deal of information available on Science Direct, Google Scholar, Elseiver and so on. Qualitative method of data analysis has been undertaken. The literatures collected have been reviewed and then arrived at a conclusion for the study.

IV. OBJECTIVES

To do a systematic literature survey on how telecommuting impacts competitive advantage with a mediation effect of environmental sustainability.

To examine the effect of telecommuting on competitive advantage with a mediating implication of environmental sustainability.

V. DISCUSSIONS

The study has conducted an intense literature analysis on the effect of telecommuting on the environment. Telecommuting has been the greatest shift caused in the work world. There are more upcoming researches in this field of environmental sustainability and telecommuting. The literature collected proves that with the help of telecommuting, there is a positive effect on the environment.

The outcome of this study is consistent with the findings of the study made by Pengyu Zhu and Susan Mason (2014) which has found that when the employees work from home, they don't use any vehicle for travelling purpose which has reduced the emission of greenhouse gases from their vehicles. There is less usage of fossil fuels like petrol and diesel as there is less travel needed. People now a days everyone owns a car and they mostly take it to travel to work and hence, while there is work from home, they do not use cars much and energy consumption is saved.

This study has also found out that the quality of air has been improving as there is less pollution now as compared to before. This statement coincides with the study made by Ramin Shabanpour and Numa Golshani (2018). Other outcome of the study is in relation to the findings of the study made by Darell Norman and Marybeth (2014) which stated that there is less greenhouse gas emission and less of carbon dioxide emission due to the less usage of vehicles for travel. The study also found out that the society has benefitted through all these environments friendly practice which was possible through telecommuting. The outcome of the study that has been found is that during telecommuting, it has positive effects on the environment. It

has been found that it contributes to less usage of fossil fuels, reduction in paper usage, reduction in emission of greenhouse gases and less consumption of energy.

The findings indicate that the businesses who construct for themselves a better remote working policy, will gain an edge over their competitors and excel among their competitors. The study supports the findings of Brandau's (2019) according to which when a firm exploits its innovative capacities during teleworking, it will surely contribute to the enhancement of their competitive advantage and also helps them to deliver great customer service.

VI. CONCLUSION

Telecommuting has come into trend due to the Covid 19 pandemic in which all the employees worked from home and through which there were many advantages possible for the organisations, the society as well as the environment. This paper focussed on how telecommuting contributes positively to the environmental sustainability. And so, it has concluded that telecommuting has a positive impact on the environment by reducing the usage of greenhouse gas emissions, carbon dioxide emissions, less paper usage, less energy consumption, less usage of fossil fuels and lastly the quality of the air that we breathe has been improved. If this telecommuting is made possible by the organisations in a systematic and proper way and for a longer period of time, it has a greater possibility of having a very much positive impact on the environment and there will be resources available for the future generation as well.

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