

IMPACT OF CLIMATE CHANGE IN SMALL BUSINESS

Andreas Karaoulanis, Kaunas University of Applied Sciences

ABSTRACT

Climate change started the last years having a huge impact on societal and global level and has started affecting small business on a global level as well.

This research addresses the issue of the impact of climate change on small business operations and the actions that they need to take in order to be able to mitigate the results of this change. Method: The method that this research followed is the library/ literary analysis. Research question: How small business will be able to cope with the climate change in a way that they will be able to achieve their sustainable development? Results: The results highlighted the impact of the climate change to small business which is multidimensional including areas that were impacted negatively like supply chain, production, resources acquisition, infrastructure damages, regulatory and governmental uncertainty etc. Also, the results indicated the actions that small business need to take towards a sustainable future like CEOs training, adaptation of environmental profile, collaborations etc.

Keywords: Climate Change, Small Business, Actions, Impact, Sustainable Development

INTRODUCTION

The world is on the verge of a crucial change on the climate, a change that has already starting impacting business, on a global scale, one way or another.

According to a greenjournal.co.uk (2020) article, climate change is “*a long-term shift in the Earth’s typical weather patterns, with temperatures rising and the occurrence of extreme storms increasing*”.

In addition, according to climate.nasa.gov (n.d.), “*climate change is a long-term change in the average weather patterns that have come to define Earth’s local, regional and global climates. These changes have a broad range of observed effects that are synonymous with the term*”.

What we can understand from both the above-mentioned definitions, climate change is a long-term change of the typical weather patterns all over the world. So, climate change is not something that just entered our lives. It is an ongoing situation which has been escalating the last decades as a result of industries 3.0 and 4.0.

People have started experience the last years the significant impact of the climate change which include changing in weather patterns, rising sea level, extreme weather events/ phenomena etc.

It is imperative to understand that without action the world’s average surface temperature will rise over the 21st century and will likely surpass 3 degrees Celcius, while some parts of the world might experience even higher temperature. It is the poorest and the most vulnerable people who will be affected the most (un.org,n.d.).

Small business has started understanding the importance of this change and some of them realized that they need to take some preventive measures towards their sustainability and even their survival.

Business, at all levels and industries, will be affected, if they have not already done so, by climate change. Especially small business, seem more vulnerable as they have limited resources and they are more easily be influenced by international fluctuations e.g. in supply chain, shortages in raw material etc.

In this paper we will examine the impact of climate change in small business and which measures such business should take in order to overcome, at least at a degree, the catastrophic consequences that might hit them due to such change. Not to mention that although small business play an important role in both economy and job creation, they also have heavy impact on environment, while there is a problematic that has to do with their lack of skills and resources that will help them to asses them and to mitigate their negative impacts (Niemistö et al., 2019).

Problem and Aim of the Research

This library research addresses the problem of the climate change and its impact in small business which is the backbone of all societies. The aim of the research is to find which this impact is and how small business will be able to deal with it in an effective way which can lead them to their sustainable development.

Research Question

The research question is the following:

How small business will be able to cope with the climate change in a way that they will be bale to achieve their sustainable development?

Significance of the research

The significance of the research is huge as it deals with a contemporary phenomenon which is of the outmost importance and also because that phenomenon will impact hard our societies via the devastation of small business. If the results of this library research, especially in terms of the proposed solutions for handling the crisis of the climate change, this will demonstrate a solution to this important problem and will spread hope which can be magnified from the future researcher who might conduct a field research which can go deeper. This library research can be seen as the yardstick, the springboard for a future detailed research, maybe on a global scale on such an important for the global society problem.

Method

The method that was followed during this research is a combination of structured library and literature research. Many online university libraries were used, while the author gathered information from trustworthy and reliable online sources. In that way it will be possible to depict a clear and concise picture of some of the most prevalent ideas, predictions and trends on the research topic that will help him in answering the research question.

The information that was gathered was categorized, organized and combined in a way that the research question was met. In terms of the quality of the information that was gathered, the author collected data from sources which were checked for their reliability and authority. This is why; its majority comes from academics and well-known professionals from all over the world.

RESEARCH FINDINGS

In this chapter we are going to stress the finding of this research in terms of two main topics; which is the impact, if any, of the climate change in small business and what actions small business should take in order to mitigate the climate change consequences.

Impact of Climate Change in Small Business

According to a survey of 750 executives, conducted during January and February 2021, which tried to address and evaluate the responses of business to climate change on the basis of the coronavirus pandemic and the resulted economic downturn, business leaders seemed to be very concerned regarding climate change. They no longer see it as a distant threat and this is, among other reasons, because nearly 30% of them argued that their companies already started feeling the operational impacts of climate-related disasters. Over 25% of them stressed that they already facing a scarcity of resources due to the same reason (Deloitte.com, 2021).

According to the same survey, executives are stressing that the whole world is at a tipping point to act if we are to mitigate the effects of the climate change (Deloitte.com, 2021).

In addition, according to the same survey (Deloitte.com, 2021), we can see in the following figure which are the environmental/ climate change issues that impact organizations as their executives stressed out:

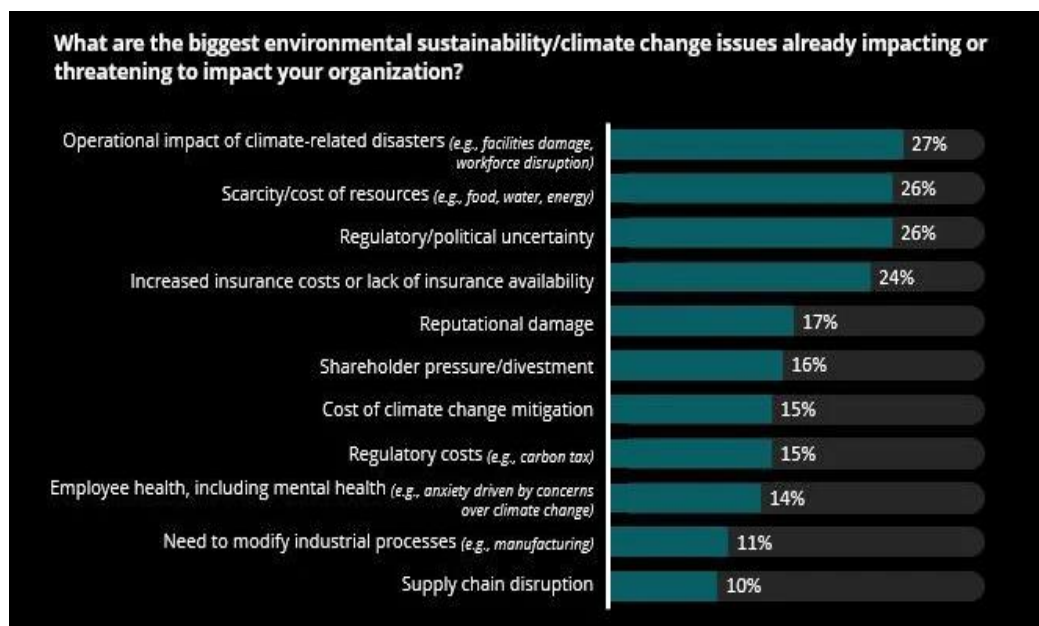


FIGURE 1
WHAT ARE THE BIGGEST ENVIRONMENTAL SUSTAINABILITY/ CLIMATE CHANGE ISSUES ALREADY IMPACTING OR THREATENING TO IMPACT YOUR ORGANIZATION (Deloitte.com, 2021)

In the above figure we can see that the most important issues that companies are facing due to the climate change are: operational disasters, scarcity issues which increase cost of goods, regulatory/ political uncertainty, increased insurance costs, shareholder pressure, cost of efforts

towards climate change mitigation, employee physical and mental health, need for industrial processes modification, supply chain disruption (Deloitte.com, 2021).

But, especially for small business, such climate change can be said that is even more eminent. Other paragon might get involved, something which makes things even more complicated.

According to a Lo et al. (2019), survey which took place between 116 small and micro business owners in the coastal area of Hong Kong which are exposed to high floods, socio-economic disadvantages such as low education attainment, older age, low income and gender, are related to some aspects of small business vulnerability in terms of mitigating the results of climate change in their business.

In terms of the operational impact that climate change has in small business, it is important to underline that three out of ten small business are already facing the impact of environmental, climate-related, disasters such as facilities damage and workflow disruption (Forbes.com, 2021).

Additionally, a very important issue is the scarcity which increases the cost of resources (Forbes.com, 2021). Food, water and energy became, the last years, resources at risk due to the climate change, which in addition to e.g. corps devastating weather conditions that it causing etc., also has a negative impact in supply chains on a global level. Especially during the coronavirus pandemic, such phenomena have increased and led us to the supply chain and scarce resources problems that we are facing today on a global scale and which of course, have a huge negative impact to small business as well.

Another very important issue that impacts small business at a high degree is the uncertainty that is caused on a global scale in terms of regulatory and political conditions (Forbes.com, 2021). The banking and the healthcare industries are two of which cited this uncertainty as critical in terms of impacting their sustainability efforts (Forbes.com, 2021).

Since small business needs to decrease their risks and apply their strategic efforts under more certainty, the increased insurance costs jeopardize such efforts. Their executives are very well aware on how climate related events have in many cases led to dramatic increases in insurance costs which inevitably also led to many small business seizing their insurance policies as they became unable to support them financially (Forbes.com, 2021).

Actions that Small Business Can Take to Mitigate the Climate Change

According to a research that was conducted by Williams and Schaefer (2013), environmental engaged small business managers exhibited an internal locus of control. This is very important and makes us understand that when it comes to decision making and taking actions e.g. toward mitigating the issues that we discussed in figure 1, small business owners' personality is a catalyst.

According to a 2020 research in the United Kingdom (UK), till the last years small and medium enterprises (SMEs), had owners who were not that sensitive regarding the impact of climate change in the society and in their business, mainly due to the involved cost in mitigating their effects (Revell et al., 2010).

According to the same survey in 220 UK SMEs this trend has been gradually changing as from the responses was underlined that SMEs' owners started actively involving in recycling, energy efficiency and generally started to actively seeking ways to gradually decreasing their company's overall carbon footprint (Revell et al., 2010). This change in trend is mainly the result of a change in the SMEs' owners' mentality towards a more responsible one (Revell et al.,

2010). This mainly happened due to their realization of the gravity of the phenomenon and the impact that their companies can have on a societal level. Under this prism, they started becoming willing to accept the involved costs which have to do with tougher environmental policies, regulations and taxation (Revell et al., 2010).

Of course, small business owners also realized that a change towards a more environmental-friendly business approach can increase their customer's base, creates higher employee-retention, and brings cost savings and a good publicity for their companies (Revell et al., 2010).

A key-point in terms of that change in trends between SMEs owners in the UK, was that they started to realize that the benefits of strong early action on climate change outweigh the costs on the long run and that a transition to low-carbon emissions economy will be able to bring even new opportunities for business growth and sustainable development (Revell et al., 2010).

It is extremely important to see via this way of looking at things that we need to never forget what the "*open systems theory*" dictates. According to dictionary.apa.org (n.d.), the open systems theory is "*a theoretical perspective that views the organization as open to influence from the environment. The organization is viewed as transforming human and physical resources from the environment into goods and services, which are then returned to the environment*".

This is why it is imperative for small business owners to understand that their actions, especially the ones which have to do with the environment, can be proved crucial for the well-being of their surrounding society as they interact with it. Also, since this interaction is two ways, they need to understand that if they will have a negative impact to the surrounding society; this will impact negatively as well their business. So, it is for the common good to adapt an environment friendly approach in their business.

It is imperative for small business to train their owners. Only in that way they will be able to positively change their mentality and tackle successfully important issues like the climate change. Since they are the decision makers in their companies, they are the ones that need to understand the importance of change in their mindset, especially since many of them are not ready to deal with the problem, mainly due to lack of resources, the increased cost and their past-focused mentality.

According to a survey that took place on a global scale, 81% of the respondents strongly believed that companies need to take the preventive measures that tackle climate change (greenjournal.co.uk, 2020). This is why small business needs to take such measures that will help them not only to reduce their negative environmental impact, but also to attract and retain more environmental sensitive customers.

Also, small business can shape their brand name and their company culture by using more environmental friendly policies (Forbes.com, 2021). By underlying their environmental sustainability efforts they can attract loyal customers that can increase their visibility and retain their employees. Also, their company culture can be enhanced via the use of such policies and actions and in that way they can create a better equilibrium inside their organization and can support their mission and vision. Small business that does not adapt such actions and policies can severely damage their reputation, something which on the long run will have a negative impact in their profit generation.

Actions towards that direction can be elimination of paper handouts, cut back on single-use plastics, establishing an office-wide recycling program etc. Also, small details like change light bulbs to LED ones which are less energy consuming and investing in smart thermostats can

be good and low-cost solutions towards less impact on the environment (greenjournal.co.uk, 2020).

Another important measure is the use of new technologies like virtual meetings in order e.g. to decrease travelling which is one of the most prominent greenhouse gases pollution source (greenjournal.co.uk, 2020).

Another use of the industry 4.0 technologies that was vastly introduced during the covid-19 pandemic is remote working. A great plus of remote working, is that it reduces the commuting time. So, since it is quite affordable for small business to turn a part or all its functions on a remote basis, commuting to work can be reduced dramatically. The aftermath of decreased commuting time is huge as cars not only contribute to greenhouse gas emissions, but also exhaust fumes increase air pollution and pose a serious threat to the public health (imperial.ac.uk, n.d.). According to Imperial College of London (n.d.), poor air quality in capital cities lead to around 1,000 London hospital admissions for asthma and serious lung conditions each year, while on the same time, air pollution in the USA is associated one way or another with about 30,000 deaths and reduced life expectancy.

We can easily understand that air pollution is a huge negative determinant of climate change, something which can have vast impact in the standard of living in the western mainly, civilization.

In addition, remote working can decrease energy consumption in small business premises, something which not only can have a positive impact in climate change, but also will decrease the electricity bills for small business. With energy efficient offices, small business could achieve lower energy consumption. That includes buildings with proper insulation, drought-proofing windows and doors etc. (imperial.co.uk, n.d.).

Since brand name is extremely important for small business and since they need to cultivate a very positive profile in terms of reducing the impact of climate change, small business is good to start sharing their environmental friendly actions and products with people around them. In that way they will be able to attract environmental sensitive customers and establish an environmental friendly brand name in the market in which they operate.

Another way that small business can follow in order to tackle the climate change is to adapt the 3 Rs of sustainability which are “*reduce, reuse, and recycle*” (activesustainability.com, n.d.). Under this prism, they need to consume the raw materials that they might need in order to produce their goods in a more efficient way (Activesustainability.com, n.d.). This can be achieved via a lean and just-in-time approach in their business, something which will also reduce their production and inventory costs. In addition, materials that can be reused need to be reused, as long as the quality of the final product won't be decreased. Finally, recycling can be used e.g. in packaging and in production, something which in addition to the positive influence that will have to the climate change, if advertised carefully, it can increase brand loyalty and cultivate a better brand name for the small business in question.

Small business owners need to address their environmental considerations to government agencies that are responsible for environmental issues and ask them to contribute via their actions or specific promotions to campaigns with environment friendly content. Groups of small business, no matter the industries in which they might operate, need to gather together and with the public and discuss the issues and find solutions on how to tackle climate change. Small businesses are a vital component of societies and their decisions affect them heavily. In addition, by engaging consumers they will be able to strengthen the bond between them and generate more

loyal customers. Not to mention that in this way, they will be able to offer back to the society and enhance their corporate social responsibility.

The government and the local authorities can also play a vital role in assisting small business towards their environmental contribution via policies, legislations, incentives and donations that will help them change their profile e.g. in their production lines etc. and deploy environmental-friendly ones. With the help of the government, small business will be able to overcome the problem of their scarce resources and they will be able to become more environmental sensitive without thinking of the potential incurred cost as we discussed in a previous chapter.

DISCUSSION

In this chapter we are going to discuss the findings of this research in terms of the two topics that were examined, namely the impact of the climate change in small business and the actions that small business should take in order to mitigate that change.

Impact of Climate Change in Small Business

The results of this research were extremely important as they highlighted that the impact of climate change is vast on societal level and heavily affects small business as well.

The majority of SMEs owners have started feeling the negative impact of climate change in their operational activities, while many of them have started facing a lack of resources.

In addition, we saw that the whole world is at a tipping point in terms of taking the right action in order to be able to mitigate the results of the climate change. Immediate action needed, which can take many forms as we are going to discuss in the following sub-chapter.

Facilities damage due to heavy meteorological phenomena (e.g. hurricanes, heavy rain, tornados etc.), workflow disruption which leads to financial issues, scarcity of resources which increases the prices of raw materials and of course of the final product, problems in supply chain, problems in both food supply and energy supply, regulatory and political uncertainty and increased insurance costs, are just a few of the problem that the dramatic climate change imposes on small business and not only.

Actions That Small Business Can Take To Mitigate the Climate Change

One of the most important research results is that small business need to train their owners' mentality into one which is more environmentally friendly, no matter the involved costs.

Small business owners are important decision makers and small business need to understand that they need to deal with issues that have to do with their education, gender, older age, low income etc.

The research always highlights several actions that small business can take in order to mitigate the climate change such as elimination of paper handouts, change of energy consuming bulbs into LEDS, adaptation of remote working and virtual meetings and a general embrace of the new technologies that industry 4.0 have brought.

In order not only to mitigate the climate change, but also to increase their brand name and profitability, small business need to cultivate an ore environmental friendly profile and to start attracting similar customers.

Other actions include collaboration with other small business with the same concerns; ask for assistance from the government agencies that are responsible for such issues, customer engagement, reuse of materials in packaging and production, adaptation of lean and just-in-time approaches etc.

Governments also need to embrace the small business efforts towards that direction and assist them via the implementation of eco-friendly policies, legislations, incentives, donations etc.

In general, the research results were overwhelming in terms not only of the impact of climate change in small business, but also in terms of the small business' actions that needed to be taken towards a more climate-friendly direction.

Many might argue that larger corporations, like multinationals ones with thousands of employers in many countries, having a larger portion of responsibility regarding the climate change and that they should be the ones that need to take some action towards the right direction in order to mitigate the results of the climate change.

Although this might be the case and although larger corporations might need to do that, it is the author's prevalent idea that everybody needs to change her mentality and start thinking in a greener way. Small business are some of the ones that will accept the majority of the negative outcomes of such climate change as they are very vulnerable, especially in terms of their financial liquidity.

ANSWER TO THE RESEARCH QUESTION

The research question that this research has posed is the following:

“How small business will be able to cope with the climate change in a way that they will be able to achieve their sustainable development?”

The answer to the above mentioned research question is the following:

Small business can adapt a series of actions that can assist them towards their sustainable development in the midst of the climate change. Such actions include the following:

- Change of small business owners mentality towards a greener and more eco-friendly one
- Adaptation of techniques like lean and just-in-time
- Recycling in packaging and production
- Reuse of materials, elimination of wastes (especially paper handouts, plastics etc.)
- Seeking assistance from governmental agencies which dealing with environmental issues
- Collaboration with other environmental sensitive companies
- Engaging customers in environmental friendly actions
- Adaptation of environmental friendly profile and advertise it towards the acquisition of similar thinking customers and increasing of the company's brand name
- Governmental actions to assist small business towards the climate change outcomes mitigation, like implementation of eco-friendly policies, incentives, legislations, donations etc.

Future Research

Since this is a library research, the researcher of the future should be based on its results in order to dig deeper via a field research. Such field research should involve potential mechanisms that small business can use in order to decrease their carbon footprint, ways of financing their operations in the middle of the climate crisis, societal contributions that might

assist them, especially in local societies where there is a very strong bond between small business and the society, how small business might need to change via e.g. the use of innovative approaches that industries 4.0 and 5.0 might be able to offer to them in a way that they can survive during the crisis, just to name a few.

Research Limitations

The obvious limitation of this research is that it is not a field one and it deals with already formalized opinions of experts from all over the world. It can be said that this limitation it can be seen as its strong point as well, as it permits the deployment of several future field researches that can be based on the results of his one.

CONCLUSIONS

Climate change is a contemporary phenomenon that has started already to have vast impact on societal level on a global scale. As a result, small business has already started to feel the outcomes of its advent. In this research we tried to shed some light on the impact of climate change in small business and to the actions that small business need to adapt towards the mitigation of the negative results of the climate change.

This mitigation is achievable as long as certain actions that we described can implemented from both the government and small business and since a more eco-friendly can be adapted in small business commercial philosophy, in their everyday operations and in their overall way of dealing with the phenomenon.

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