

# SE7226 Assignment

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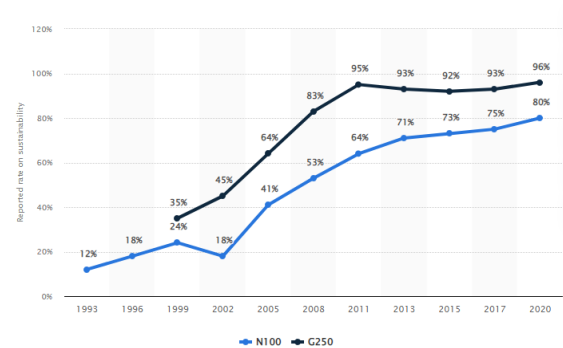
## Introduction

Sustainability is the capacity of natural and social systems to continue operating without running out of resources or deteriorating (Goodland, 1995). It entails answering the necessities of present times without denying future generations of potential opportunities to address their own needs. It encompasses a wide range of interconnected environmental (Goodland, 1995), social (Oda et al., 2018), and economic concerns. The three pillars of environmental, social, and economic sustainability are frequently balanced, and adopting a comprehensive and integrated approach to decision-making is necessary for sustainability (Boussemart et al., 2020). Briefly, the concept of sustainability is crucial for addressing the interconnected problems that our planet is currently facing (Lubin & Esty, 2010). It calls for a long-term, comprehensive, and integrated approach to decision-making (Glavič & Lukman, 2007).

The necessity to adopt sustainable practices is recognised by organisations as a critical component of modern business operations in order to reduce negative environmental effects and support international efforts to create a more sustainable future (Lubin & Esty, 2010). Nevertheless, organisations encounter a number of obstacles to adopting sustainability initiatives despite the numerous advantages they offer (Komatsu et al., 2019). Organisational hurdles include a lack of sustainability education and training, poor stakeholder participation, and a failure to incorporate sustainability into business strategy (Hwang & Tan, 2012). Organisations may work with stakeholders, invest in stakeholder collaboration, and integrate

sustainability into the corporate strategy to get beyond these obstacles (Boussemart et al., 2020).

As the world community has come to understand the urgency of halting environmental degradation (Lubin & Esty, 2010) and lowering the carbon footprint of human activities (Goodland, 1995), sustainability has received a lot of attention recently (Figure 1).



**Figure 1:** “Companies who report on sustainability worldwide from 1993 to 2020” taken from “Growth rate of global sustainability reporting 1993-2020”, Jaganmohan (2022)

Many businesses have begun implementing sustainable practices into their operations in response to these worries, including the use of renewable energy sources, ethically sourced materials, and waste management techniques (Schirnhöfer, 2022). Despite the potential advantages of sustainability for the environment and society, there are still a number of obstacles (Hwang & Tan, 2012) that could prevent people from implementing sustainable practices.

These difficulties, often referred to under the term initiatives, can be attributed to a number of things (Afsar et al., 2020; Camilleri, 2022), including a lack of awareness, the high cost of putting sustainable practices into practice (Opoku & Ahmed, 2014), and the difficulty of quantifying the advantages of sustainable practices within a timeframe (Ameer & Othman,

2012). Similarly, according to Farley and Smith (2020), the concept of sustainability is highly contested within the bodies that can apply these initiatives. Therefore, it is crucial to comprehend the motivations behind and constraints placed on operational sustainability and to develop solutions to these problems (Ameer & Othman, 2012; Boussemart et al., 2020; Coyne, 1986; Opoku & Ahmed, 2014). In addition to exploring alternative ways to encourage the adoption of sustainable practices, which can help to achieve environmental and social sustainability, this article seeks to provide an overview of the main drivers and challenges to sustainability in operations.

### **Sustainability Drivers in Projects**

The adoption of sustainable practices in operations is hampered by a number of factors in addition to the drives. The belief that implementing sustainable practices is expensive and time-consuming is one of the biggest obstacles (Ameer & Othman, 2012; Chakraborty et al., 2022; Mwanza & Mbohwa, 2017). A lack of knowledge about the potential advantages of sustainable practices, which might result in a reluctance to invest in sustainable technologies or processes, can exacerbate this impression (Chakraborty et al., 2022; E. Akins et al., 2019; Opoku & Ahmed, 2014). Another obstacle is the task at hand to precisely ascertain the monetary value of the advantages of sustainable practices (Atz et al., 2021), which can make it challenging for businesses to justify the investment needed to implement them (Ameer & Othman, 2012; Boussemart et al., 2020; Coyne, 1986). As Boussemart et al. (2020) argues, this is a recurring theme in sustainability-related

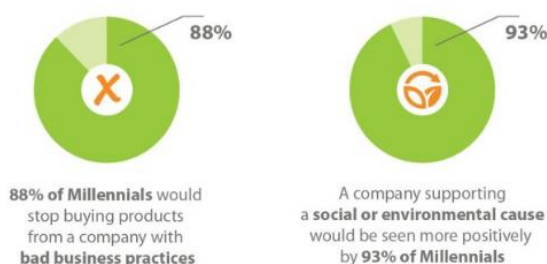
conversations, yet, sustainability has many long-term financial benefits (Atz et al., 2021).

Despite these obstacles, there are a number of tactics that businesses can use to get past them and implement sustainability into their operations (Hwang & Tan, 2012). Investing in sustainability training and education, working with stakeholders to create partnerships that support sustainable practices, and incorporating sustainability into corporate strategy are some of these strategies (Ameer & Othman, 2012; Baumgartner & Ebner, 2010). For instance, businesses might spend money on sustainability education (Baumgartner & Ebner, 2010; E. Akins et al., 2019) and training for staff members to assist them comprehend the advantages of sustainable practices and how to put them into practice (Lubin & Esty, 2010). Collaboration with stakeholders can help increase support for sustainable practices and foster a common understanding of the significance of sustainability. Stakeholders include suppliers, clients, and non-governmental organisations.

Organisations can gain from adopting sustainable practices in a variety of ways (Ortiz - de - Mandojana & Bansal, 2016). For instance, as mentioned by Mandojana et al. (2016) it might result in increased effectiveness and cost savings. By using energy-efficient technologies, businesses can lower their energy usage and related costs (Omer, 2008). Similar to this, implementing waste reduction programmes can assist organisations in lowering the cost of trash disposal while also perhaps opening up new revenue streams through material recycling (Chakraborty et al., 2022; Koul et al., 2022; Mwanza & Mbohwa, 2017; Neebe, 2020). Additionally, through the creation of long-term

relationships with suppliers, sustainable sourcing techniques can assist organisations in reducing the risks associated with supply chain disruptions and even result in cost savings (Kumar, 2022).

Enhanced reputation and brand image are further advantages of sustainability for businesses (Flores - Hernández et al., 2020). Businesses that are recognised as industry leaders in sustainability might acquire a competitive advantage and draw in a devoted customer base as customers grow more environmentally and socially aware (Goodland, 1995). Furthermore, employing sustainable business practices can aid employers in luring and keeping workers who are inspired by their dedication to social and environmental responsibility (Assoratgoon & Kantabutra, 2023; Ortiz - de - Mandojana & Bansal, 2016; Soini & Dessein, 2016). In accordance with a survey conducted by Gerasimos (2017), 93% of millennials take into account an employer's stance on social and environmental goals (Figure 2). This is further enhanced by 88% of said millennials would stop affiliating with a brand or a company that has bad business practices (Gerasimos, 2017) (Figure 2).



*Figure 2: Survey results of "Millennials Embrace CSR" by Cone Communications, taken from Gerasimos, 2017*

Additionally, sustainability can assist businesses in adhering to legal requirements and avoiding risks to their reputation and legal standing (Bratspies, 2011). For instance, businesses in the energy and transportation sectors can be subject to tight emissions guidelines (Zubair et al., 2023), and breaking these rules could result in sizable fines and other legal repercussions (Bratspies, 2011; Goodland, 1995). Organisations can avoid these hazards as well as establish themselves as industry leaders (Coyne, 1986; Ortiz - de - Mandojana & Bansal, 2016) and even have an impact on the creation of new rules by employing sustainable practices (Schirnhofner, 2022).

Overall, the causes and obstacles to sustainability in operations are intricate and multidimensional with many points of perception, necessitating a comprehensive strategy to properly address them (Glavič & Lukman, 2007). According to Oda et al. (2018), organisations may design strategies to overcome these difficulties and achieve environmental and social sustainability, which can ultimately be advantageous to their business and the world as a whole, by understanding the forces that drive and hinder sustainability in operations.

According to Bansal et al. (2016), a lifetime approach is another tactic for removing obstacles to sustainability in operations. In detail, Goodland (1995) states that, this approach entails taking into account a product or service's environmental impact over its entire lifecycle, from the extraction and manufacture of raw materials to usage and disposal. Therefore, organisations can find chances to lessen their impact on the environment and maximise the use of their resources by adopting a lifecycle approach (Labuschagne & Brent, 2005). For

instance, a business might spot chances to cut waste throughout the manufacturing process cycle (Chakraborty et al., 2022) or change to more environmentally friendly materials while designing products (Mwanza & Mbohwa, 2017). Additionally, organisations can improve operational accountability and transparency by using a lifecycle approach, which can improve their reputation and foster confidence among stakeholders (Labuschagne & Brent, 2005; Wong & Zhou, 2015).

### **Operational Barriers to Sustainability**

Organisations can profit much from sustainability, but there are also considerable obstacles that may prevent its implementation (Farley & Smith, 2020). The expense of putting sustainable practices into place is one of the major obstacles (Komatsu et al., 2019). Many sustainable efforts demand a sizable upfront investment, which can be difficult for businesses with low funding (Epstein & Buhovac, 2010). Additionally, it may be difficult to justify the investment in sustainable practices because some organisations may put short-term profitability ahead of long-term sustainability (Epstein & Buhovac, 2010; Neebe, 2020; Ortiz - de - Mandojana & Bansal, 2016). Furthermore, it may be challenging to quantify the advantages of sustainable practices due to the lack of standardised metrics, which may deter some organisations from investing in them (Glavič & Lukman, 2007).

The absence of regulation and standards is a serious impediment to sustainable operations. This is further argued by Glavič et al (2007) as even the terminology in the sustainable

development field is in need of an amplificative renovation. Organisations may find it difficult to execute sustainable practices consistently and successfully in the absence of clear norms and laws (Bratspies, 2011). As a result, some businesses may be able to gain a competitive edge by investing in sustainability, while others may be left behind for lack of funds, expertise or education (McFarlane & Ogazon, 2011).

The aversion to change that can result from well-ingrained organisational cultures and practices is another key barrier to sustainability (Assoratgoon & Kantabutra, 2023). For instance, some organisations have engrained routines and procedures that aren't sustainable (Komatsu et al., 2019). This is especially true in fields where traditional methods have a history or where cultural or religious beliefs are thought to conflict with sustainable methods (Assoratgoon & Kantabutra, 2023; Ives & Kidwell, 2019; Komatsu et al., 2019; McFarlane & Ogazon, 2011; Soini & Dessein, 2016).

Additionally, some industries might experience particular difficulties and sustainability barriers (Mwanza & Mbohwa, 2017). In the agricultural sector, for instance, the use of pesticides and fertilisers can cause soil deterioration and water contamination (Koul et al., 2022), but it can be challenging to identify sustainable alternatives (Frolova et al., 2019). Similarly to this, the usage of fossil fuels and non-renewable resources can be firmly embedded in the industrial sector, making the shift to more sustainable practices difficult (Mwanza & Mbohwa, 2017).

Organisations can use a variety of tactics to get beyond these obstacles. Engaging in stakeholder engagement and communication is one strategy. In order to do this, stakeholders must be actively consulted about their opinions and included in

the creation and execution of sustainability initiatives (Camilleri, 2022). Organisations can increase support for sustainable practices and spot potential obstacles early on by incorporating stakeholders in the process (Garvare & Johansson, 2010).

In some situations, religious and cultural beliefs can also be a hindrance to sustainability (Ives & Kidwell, 2019; Soini & Dessein, 2016). For instance, altering ancient practices or tampering with natural resources may be viewed as disrespectful or sacrilegious in some cultures, even if they are bad for the environment (Ives & Kidwell, 2019; Soini & Dessein, 2016). In other instances, a lack of care for sustainability may result from religious beliefs that place a higher priority on the hereafter than the environment (Ives & Kidwell, 2019; Kumar, 2022). Promoting sustainability in a multicultural and globalised world requires an understanding of and attention to these cultural and religious boundaries.

An additional tactic would be to use a systems thinking mindset. This would entail taking into account the complete operating system of an organisation, including its suppliers, clients, and other stakeholders (Epstein & Buhovac, 2010; Garvare & Johansson, 2010), also considering the three pillars of sustainability (Boussemart et al., 2020). Similarly, Hwang (2012) argues that projects and their managers can find opportunities for innovation and collaboration that can help remove sustainability-related obstacles by adopting a systems-thinking approach.

In general, there are many different factors that contribute to and hinder operational sustainability. Organisations may, however, overcome these difficulties and achieve

sustainable operations by taking a comprehensive approach that entails including stakeholders (Garvare & Johansson, 2010), adopting a lifecycle view (Wong & Zhou, 2015), and putting sustainable practices into place throughout the entire system (Hwang & Tan, 2012).

## **Argumentation**

Investing in education and training is one of the best ways to get over the obstacles to sustainability (McFarlane & Ogazon, 2011). Employee empowerment through the provision of the knowledge and abilities required to execute sustainable practices can aid in overcoming change aversion and fostering support for sustainability projects (Afsar et al., 2020). Training on subjects like life cycle assessment, environmental management systems, and circular economy principles can fall under this category. In order to strengthen support for sustainable practices throughout the entire system, organisations can also invest in sustainability education for their stakeholders, such as suppliers and customers (E. Akins et al., 2019; Garvare & Johansson, 2010; McFarlane & Ogazon, 2011; Neebe, 2020; Perrini & Tencati, 2006).

Collaboration with stakeholders is another successful tactic (Perrini & Tencati, 2006). Engaging with stakeholders like suppliers, clients, and neighbourhood groups can assist businesses in seeing chances for innovation and teamwork that could result in sustainable business practices (Afsar et al., 2020). This may entail partnering with suppliers to find more environmentally friendly materials (Goodland, 1995) or with clients to rethink packaging in

order to cut waste. Stakeholders can collaborate to accomplish sustainability goals that might not be feasible to accomplish separately (Perrini & Tencati, 2006).

Another option is to include sustainability in the company strategy. Organisations can guarantee that sustainability projects are given the resources and support they need to thrive by integrating sustainability as a key component of the business strategy (Fowler & Hope, 2007). Setting sustainability goals and objectives, creating sustainability indicators and reporting systems, and incorporating sustainability into decision-making processes can all be part of this. Organisations can develop a sustainable business model that can provide long-term advantages (Neebe, 2020; Schirnhofner, 2022) for both the organisation and the environment by integrating sustainability into the corporate culture (Assoratgoon & Kantabutra, 2023; Soini & Dessein, 2016). Furthermore, they can enhance their sustainable lifecycles while taking a sustainability-first approach with artificially intelligent planning, or green-software (Wong & Zhou, 2015).

There are numerous other examples of businesses that have effectively incorporated sustainable practices into their operations in addition to the case studies already listed. For instance, Walmart, a big retailer in the world, has significantly reduced its environmental effect (Neebe, 2020) by integrating sustainable practices into every aspect of its business (Schirnhofner, 2022). To decrease waste, improve energy efficiency, and source more environmentally friendly items, the corporation has set ambitious goals (Meeks & Chen, 2011; Schirnhofner, 2022). Along with lowering costs, these initiatives have enhanced the company's

standing with clients and other stakeholders (Neebe, 2020; Schirnhofner, 2022).

It should be recognised, nevertheless, that putting sustainability measures into action can be difficult (Farley & Smith, 2020). For some businesses, the up-front costs of adopting sustainable practices, for instance, can be a barrier. Additionally, putting sustainability initiatives into practice may call for significant adjustments to the way a company runs, which may encounter opposition from stakeholders and employees (Epstein & Buhovac, 2010; Flores - Hernández et al., 2020; Garvare & Johansson, 2010; Perrini & Tencati, 2006). Furthermore, there may be conflicts between sustainability and profitability if sustainability initiatives are not always consistent with short-term financial objectives (Epstein & Buhovac, 2010).

A more thorough examination of the choices accessible to businesses looking to implement sustainable practices in their operations can be obtained by looking into specific sustainability initiatives (Assoratgoon & Kantabutra, 2023). To lessen a company's dependency on non-renewable energy sources, an energy efficiency programme could encourage the adoption of renewable energy sources like solar or wind power (Bose, 2017). Similar to this, a waste reduction programme might include actions to lessen the quantity of waste produced by an organisation, such as recycling, composting, and minimising packaging materials (Chakraborty et al., 2022; Koul et al., 2022). Working with suppliers who prioritise sustainability and social responsibility is another aspect of sustainable sourcing practices that can benefit society and the environment (Fowler & Hope, 2007; Opoku & Ahmed, 2014).

New trends and technologies are developing as sustainability continues to acquire prominence in the global conversation, which can aid organisations in enhancing their sustainability practices (Omer, 2008). For instance, increasing usage of renewable energy sources like solar and wind power enables businesses to lessen their dependency on fossil fuels and minimise their carbon impact (Bose, 2017; Wassie & Adaramola, 2019). Additionally, several industries are gaining momentum in the adoption of circular economy practises (Kumar, 2022), such as material reuse and recycling, which reduce waste and build more sustainable supply chains (Chakraborty et al., 2022; Koul et al., 2022). The use of data analytics to increase energy efficiency and the incorporation of sustainability into supply chain management are two further rising themes.

Organisations may also find it challenging to apply sustainable practises if they have limited access to resources and technology, particularly in poor nations or rural locations where resources may be sparse (Epstein & Buhovac, 2010; Komatsu et al., 2019; Wassie & Adaramola, 2019).

Looking ahead, it is obvious that sustainability will remain a crucial problem for businesses across all industries (Farley & Smith, 2020; Lubin & Esty, 2010; Mwanza & Mbohwa, 2017). Industry-specific sustainability difficulties, such as those faced by the agriculture (Oda et al., 2018) or transportation industries, will likely be the focus of research and practice on the topic of sustainability in operations (Koul et al., 2022). In addition, it's anticipated that sustainable practices will increasingly include cutting-edge technologies and trends like artificial intelligence and the Internet of Things (Nishant et al., 2020;

Omer, 2008; Vinuesa et al., 2020). In order to compete in a market that is becoming more and more concerned with sustainability, it is crucial for organisations to keep up with new trends and continue investing in sustainable practices (McFarlane & Ogazon, 2011; Nishant et al., 2020; Soini & Dessein, 2016).

In general, the advantages of sustainability in business operations outweigh the difficulties (Coyne, 1986; Farley & Smith, 2020; Goodland, 1995; Hwang & Tan, 2012; Neebe, 2020; Oda et al., 2018). Businesses that successfully implement sustainability programmes can reduce costs, enhance their brand (Flores - Hernández et al., 2020), and draw in eco-aware clients (Camilleri, 2022). Organisations may get beyond the obstacles to sustainability and profit in the long run by investing in sustainability education and training, working with stakeholders, and incorporating sustainability into corporate strategy.

## **Integration and Mitigation Plan**

Integration of sustainable practices while minimizing potential negative impacts should be the main goal of a comprehensive sustainability plan. This plan can include multiple steps, from developing a sustainability strategy to monitoring progress and avoiding greenwashing (Hwang & Tan, 2012).

Firstly, to achieve proper integration, a sustainability assessment should be conducted (Waas et al., 2014). This can be done by evaluating current sustainability practices and looking for areas for improvement (Waas et al., 2014). Furthermore, according to Waas et al. (2014), this assessment can include an analysis



of energy usage waste generation supply chain practices and more.

Moreover, based on the results, organizations should develop a plan which aligns with their values to outline specific actions that can be taken to reach a sustainable goal (Goodland, 1995; Labuschagne & Brent, 2005). This goal can be planned using targets and can be measured by tracking their energy usage faced emissions add more (Omer, 2008). This type of tracking is also helpful to identify areas that require further improvement and adjustments (Goodland, 1995; Labuschagne & Brent, 2005; Omer, 2008). For example, an organization with high energy usage can prompt them to look for additional energy efficiency applications (Ameer & Othman, 2012; Bose, 2017).

Furthermore, when a sustainability strategy has been formed, this strategy could be divided into manageable and efficient programs (Baumgartner & Ebner, 2010; Fowler & Hope, 2007; Perrini & Tencati, 2006). In addition, the initiatives should not only be about the environment but also about sourcing social and company appearance (Flores - Hernández et al., 2020).

Followingly, the sustainability efforts taken should be communicated to stakeholders' employees and the community as a whole (E. Akins et al., 2019; Epstein & Buhovac, 2010; Flores - Hernández et al., 2020). Social media updates, sustainability reports and, a mention in financial reports will motivate organizations to reduce their environmental impact, improve their reputation (Gerasimos, 2017), and demonstrate their commitment due to the feedback they will receive from their community and employees (Flores - Hernández et al., 2020).

It may be said that these steps need to be taken carefully. It is necessary to evaluate any potential harmful effects. Although sustainability initiatives serve a good purpose, they may also have unfavourable effects, such as worsening inequality or endangering communities (Farley & Smith, 2020; Fowler & Hope, 2007; Goodland, 1995; Labuschagne & Brent, 2005). According to Buhovac (2010), sustainability should be a top priority for businesses, and this means avoiding rights violations and worker exploitation (Bratspies, 2011). The aforementioned problems can be resolved by putting in place equitable policies governing worker costs, working conditions, and material procurement (Boussemart et al., 2020; Bratspies, 2011; Epstein & Buhovac, 2010; Labuschagne & Brent, 2005).

Additionally, organisations ought to have a policy to recognise these potential drawbacks (Atz et al., 2021; Coyne, 1986; Waas et al., 2014). For instance, if a sustainability effort calls for procuring materials from a specific area, the organisation should consider the impact on the neighbourhood (Coyne, 1986) and take precautions to ensure that the neighbourhood is not adversely impacted.

The integration and mitigation should consider other factors that are indifferent to an organization when it comes to sustainability. These can be greenwashing (Laufer, 2003) and cultural factors (Komatsu et al., 2019; Soini & Dessein, 2016). Greenwashing can easily be avoided by not making false or exaggerated claims about the organization's sustainability efforts (de Freitas Netto et al., 2020). This undermines legitimate efforts and leads to distrust due to a repetition or a competitive advantage gained by deceit (de Freitas Netto et

al., 2020; Laufer, 2003). Cultural factors on the other hand such as tradition or religious beliefs can impact sustainability in a way that can't be avoided (Soini & Dessein, 2016). Organizations should consider these factors and take steps to address them while forming their sustainability plan (Soini & Dessein, 2016). Unfortunately, this might not be as straightforward since culture is engraved upon the community the organization is a part of. Nonetheless, organizations should strive to be sensible and respectful in their sustainability actions in order to avoid resentment over a cultural topic (Soini & Dessein, 2016).

A comprehensive sustainability plan that considers negative impacts, as well as positive ones, can help organizations integrate sustainability initiatives properly (Chambers et al., 2013; Waas et al., 2014). Furthermore, this type of plan is susceptible to change as there will be room because the plan already considers minimizing negative consequences (Chambers et al., 2013).

In summary, the sustainability plan can be formed under the integration and mitigation headings. The integration plan should include steps such as conducting a sustainability assessment (Waas et al., 2014), developing a sustainable strategy (Camilleri, 2022), implementing previously mentioned initiatives, monitoring and measuring progress (Labuschagne & Brent, 2005; Waas et al., 2014), and communicating organization efforts (Flores - Hernández et al., 2020). In addition, the mitigation plan that minimizes potential negative impacts can also be done by the following headings as addressing social sustainability and promoting fair practices

(Flores - Hernández et al., 2020), addressing unexpected negative impacts as they are a risk to the integration plan, avoiding greenwashing (Laufer, 2003) and finally, considering traditional or religious factors (Ives & Kidwell, 2019).

## **Conclusion**

Grasping the advantages and difficulties of individual sustainability projects that are conducted by organizations, can be examined in detail (Chambers et al., 2013; Waas et al., 2014). This will help the organizations in choosing which initiatives to undertake and which ones to adjust or postpone (Chambers et al., 2013; Glavič & Lukman, 2007). Conversely, according to Lubin and Etsy (2010), the concept of sustainability and its practices must evolve constantly to address upcoming behaviour, therefore ignoring promising initiatives is not helpful. Furthermore, this examination can also assist businesses in determining the most effective ways to lessen their environmental impact and contribute to a more sustainable future (Chambers et al., 2013; Farley & Smith, 2020; Glavič & Lukman, 2007; Omer, 2008; Wong & Zhou, 2015).

Moreover, organisations can get many advantages from sustainability and they must be aware of the significance of sustainability (Goodland, 1995; Schirnhöfer, 2022). Taking proactive actions to incorporate sustainability into their operations, including day-to-day operations, is advantageous (Ameer & Othman, 2012; Meeks & Chen, 2011). These advantages include cost savings (Epstein & Buhovac, 2010), improved reputation (Flores - Hernández et al., 2020), adherence to rules (Bratspies, 2011), and recruiting both staff and customers on their

campaigns (Madhumitha, 2022). Above all else, sustainability practices can make processes efficient, lower expenses and help drive a more sustainable product line to emerge (Atz et al., 2021). There are many reasons for motivation, but taking another look at operation processes from a sustainable point of view is still considering another way of development. It is possible to find alternative operation methodologies that are sustainable and efficient (Meeks & Chen, 2011; Neebe, 2020; Schirnhofner, 2022).

Most importantly, organisations that proactively integrate sustainability into their operations not only position themselves for long-term success but also help create a future that is more sustainable (Goodland, 1995). Having breathable air benefits every human being, regardless of nationality, lineage, culture, religion or the industry they work in.

Depending on the industry, the effects of sustainability can vary greatly. For instance, the manufacturing sector may confront issues with energy use and waste reduction (Labuschagne & Brent, 2005), whereas the hotel sector may experience issues with water use and the sustainable source of food and drink. The need of adjusting sustainability initiatives to particular industry settings can be highlighted by analysing how sustainability affects various industries (Chambers et al., 2013; Waas et al., 2014). This analysis can offer insightful information about the particular difficulties and obstacles that each industry faces (Chambers et al., 2013; Waas et al., 2014). Additionally, examining how sustainability is affecting various industries can aid in locating chances for cross-industry cooperation and knowledge-sharing. Furthermore, cooperation between industries

and sharing lessons learned is an important area open for further research.

Organisations can overcome the obstacles to sustainability in a number of other ways in addition to the ones already discussed. For instance, interacting with external stakeholders like suppliers, clients, and communities can build collaboration and offer insightful information about sustainable business practices (Epstein & Buhovac, 2010; Fowler & Hope, 2007; Garvare & Johansson, 2010; Perrini & Tencati, 2006). Similarly to this, implementing a circular economy strategy that encourages resource reuse and recycling can help minimise waste and improve resource efficiency (Chakraborty et al., 2022; Farley & Smith, 2020; Goodland, 1995; Koul et al., 2022).

Additionally, businesses can put in place environmental management programmes like ISO 14001 (Howe, 1997), which offer a structure for controlling environmental risks and enhancing environmental performance (Howe, 1997; Melnyk et al., 2003). Another technique that businesses can use to evaluate the environmental effects of their operations and products from the extraction of raw materials through the disposal at the end of their useful lives is life cycle assessment (Labuschagne & Brent, 2005; Wong & Zhou, 2015). Organisations can find ways to lessen their environmental effect and enhance their sustainability performance by completing these assessments (Chambers et al., 2013; Labuschagne & Brent, 2005; Wong & Zhou, 2015).

The adoption of sustainable practices necessitates a long-term outlook and a dedication to ongoing improvement, it is crucial to remember (Chambers et al., 2013; Farley &

Smith, 2020; Ortiz - de - Mandojana & Bansal, 2016). Organisations must understand that achieving sustainability is a journey with obstacles along the way. However, organisations may get over these obstacles and help create a more sustainable future for all by taking a

proactive and cooperative attitude (Chambers et al., 2013; Epstein & Buhovac, 2010; Flores - Hernández et al., 2020; Fowler & Hope, 2007; Goodland, 1995; Hwang & Tan, 2012; Neebe, 2020).

## References

- Madhumitha Jaganmohan, Statista. (2022, July 6). The growth rate of global sustainability reporting 1993-2020. <https://www.statista.com/statistics/1232295/global-sustainability-reporting-growth-rate/>
- Gerasimos. (2017). Cone Communications research: Millennials embrace CSR. SustainCase - Sustainability Magazine. <https://sustaincase.com/cone-communications-research-millennials-embrace-csr/>
- Afsar, B., Al - Ghazali, B. M., Rehman, Z. U., & Umrani, W. A. (2020). Retracted: the moderating effects of employee corporate social responsibility motive attributions (substantive and symbolic) between corporate social responsibility perceptions and voluntary pro - environmental behaviour. *Corporate social responsibility and environmental management*, 27(2), 769-785.
- Ameer, R., & Othman, R. (2012). Sustainability practices and corporate financial performance: A study based on the top global corporations. *Journal of business ethics*, 108, 61-79.
- Assoratgoon, W., & Kantabutra, S. (2023). Toward a sustainability organizational culture model. *Journal of Cleaner Production*, 400, 136666. <https://doi.org/https://doi.org/10.1016/j.jclepro.2023.136666>
- Atz, U., Van Holt, T., Douglas, E., & Whelan, T. (2021). The Return on Sustainability Investment (ROSI): Monetizing financial benefits of sustainability actions in companies. *Sustainable Consumption and Production, Volume II: Circular Economy and Beyond*, 303-354.
- Baumgartner, R. J., & Ebner, D. (2010). Corporate sustainability strategies: sustainability profiles and maturity levels. *Sustainable Development*, 18(2), 76-89.
- Bose, B. K. (2017). Power electronics, smart grid, and renewable energy systems. *Proceedings of the IEEE*, 105(11), 2011-2018.
- Boussemart, J.-P., Leleu, H., Shen, Z., & Valdmantis, V. (2020). Performance analysis for three pillars of sustainability. *Journal of Productivity Analysis*, 53, 305-320.
- Bratspies, R. M. (2011). Sustainability: Can law meet the challenge. *Suffolk Transnat'l L. Rev.*, 34, 283.
- Camilleri, M. A. (2022). Strategic attributions of corporate social responsibility and environmental management: The business case for doing well by doing good! *Sustainable Development*, 30(3), 409-422.
- Chakraborty, M., Kettle, J., & Dahiya, R. (2022). Electronic Waste Reduction Through Devices and Printed Circuit Boards Designed for Circularity. *IEEE Journal on Flexible Electronics*, 1(1), 4-23. <https://doi.org/10.1109/JFLEX.2022.3159258>
- Chambers, D. A., Glasgow, R. E., & Stange, K. C. (2013). The dynamic sustainability framework: addressing the paradox of sustainment amid ongoing change. *Implementation science*, 8(1), 1-11.
- Coyne, K. P. (1986). Sustainable competitive advantage—What it is, what it isn't. *Business horizons*, 29(1), 54-61.

- de Freitas Netto, S. V., Sobral, M. F. F., Ribeiro, A. R. B., & Soares, G. R. d. L. (2020). Concepts and forms of greenwashing: A systematic review. *Environmental Sciences Europe*, 32(1), 1-12.
- E. Akins, E., Giddens, E., Glassmeyer, D., Gruss, A., Kalamas Hedden, M., Slinger-Friedman, V., & Weand, M. (2019). Sustainability Education and Organizational Change: A Critical Case Study of Barriers and Change Drivers at a Higher Education Institution. *Sustainability*, 11(2), 501.  
<https://www.mdpi.com/2071-1050/11/2/501>
- Epstein, M. J., & Buhovac, A. R. (2010). Solving the sustainability implementation challenge. *Organizational dynamics*, 39(4), 306.
- Farley, H. M., & Smith, Z. A. (2020). *Sustainability: if it's everything, is it nothing?* Routledge.
- Flores - Hernández, J. A., Cambra - Fierro, J. J., & Vázquez - Carrasco, R. (2020). Sustainability, brand image, reputation and financial value: Manager perceptions in an emerging economy context. *Sustainable Development*, 28(4), 935-945.
- Fowler, S. J., & Hope, C. (2007). Incorporating sustainable business practices into company strategy. *Business strategy and the environment*, 16(1), 26-38.
- Frolova, I. I., Voronkova, O. Y., Alekhina, N. A., Kovaleva, I., Prodanova, N. A., & Kashirskaya, L. V. (2019). Corruption as an obstacle to sustainable development: A regional example. *Entrepreneurship and Sustainability Issues*, 7(1), 674.
- Garvare, R., & Johansson, P. (2010). Management for sustainability—a stakeholder theory. *Total quality management*, 21(7), 737-744.
- Glavič, P., & Lukman, R. (2007). Review of sustainability terms and their definitions. *Journal of Cleaner Production*, 15(18), 1875-1885. <https://doi.org/https://doi.org/10.1016/j.jclepro.2006.12.006>
- Goodland, R. (1995). The concept of environmental sustainability. *Annual review of ecology and systematics*, 26(1), 1-24.
- Howe, R. (1997). ISO 14001: the green standard. *Computer*, 30(11), 133-134.
- Hwang, B.-G., & Tan, J. S. (2012). Green building project management: obstacles and solutions for sustainable development. *Sustainable Development*, 20(5), 335-349.  
<https://doi.org/https://doi.org/10.1002/sd.492>
- Ives, C. D., & Kidwell, J. (2019). Religion and social values for sustainability. *Sustainability Science*, 14, 1355-1362.
- Komatsu, H., Rappleye, J., & Silova, I. (2019). Culture and the Independent Self: Obstacles to environmental sustainability? *Anthropocene*, 26, 100198.  
<https://doi.org/https://doi.org/10.1016/j.ancene.2019.100198>
- Koul, B., Yakoob, M., & Shah, M. P. (2022). Agricultural waste management strategies for environmental sustainability. *Environmental Research*, 206, 112285.  
<https://doi.org/https://doi.org/10.1016/j.envres.2021.112285>
- Kumar, S. (2022). A quest for sustainium (sustainability Premium): review of sustainable bonds. *Academy of Accounting and Financial Studies Journal*, 26(2), 1-18.
- Labuschagne, C., & Brent, A. C. (2005). Sustainable project life cycle management: the need to integrate life cycles in the manufacturing sector. *International journal of project management*, 23(2), 159-168.
- Laufer, W. S. (2003). Social accountability and corporate greenwashing. *Journal of business ethics*, 43, 253-261.
- Lubin, D. A., & Esty, D. C. (2010). The sustainability imperative. *Harvard business review*, 88(5), 42-50.
- McFarlane, D. A., & Ogazon, A. G. (2011). The challenges of sustainability education. *Journal of Multidisciplinary Research (1947-2900)*, 3(3).
- Meeks, M., & Chen, R. J. (2011). Can Walmart integrate values with value?: From sustainability to sustainable business.

- Melnyk, S. A., Sroufe, R. P., & Calantone, R. (2003). Assessing the impact of environmental management systems on corporate and environmental performance. *Journal of operations management*, 21(3), 329-351.
- Mwanza, B. G., & Mbohwa, C. (2017). Major Obstacles to Sustainability in the Plastic Industry. *Procedia Manufacturing*, 8, 121-128. <https://doi.org/https://doi.org/10.1016/j.promfg.2017.02.021>
- Neebe, K. (2020). Sustainability at Walmart: Success over the Long Haul. *Journal of Applied Corporate Finance*, 32(2), 64-71. <https://doi.org/https://doi.org/10.1111/jacf.12405>
- Nishant, R., Kennedy, M., & Corbett, J. (2020). Artificial intelligence for sustainability: Challenges, opportunities, and a research agenda. *International Journal of Information Management*, 53, 102104.
- Oda, K., Rupprecht, C. D., Tsuchiya, K., & McGreevy, S. R. (2018). Urban agriculture as a sustainability transition strategy for shrinking cities? Land use change trajectory as an obstacle in Kyoto city, Japan. *Sustainability*, 10(4), 1048.
- Omer, A. M. (2008). Energy, environment and sustainable development. *Renewable and sustainable energy reviews*, 12(9), 2265-2300.
- Opoku, A., & Ahmed, V. (2014). Embracing sustainability practices in UK construction organizations: Challenges facing intra-organizational leadership. *Built Environment Project and Asset Management*, 4(1), 90-107.
- Ortiz - de - Mandojana, N., & Bansal, P. (2016). The long - term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, 37(8), 1615-1631.
- Perrini, F., & Tencati, A. (2006). Sustainability and stakeholder management: the need for new corporate performance evaluation and reporting systems. *Business strategy and the environment*, 15(5), 296-308.
- Schirnhöfer, N. M. (2022). *Sustainability Efforts in the Retail Industry: The Case Study of Walmart* [Webster University].
- Soini, K., & Dessein, J. (2016). Culture-sustainability relation: Towards a conceptual framework. *Sustainability*, 8(2), 167.
- Vinuesa, R., Azizpour, H., Leite, I., Balaam, M., Dignum, V., Domisch, S., Felländer, A., Langhans, S. D., Tegmark, M., & Fuso Nerini, F. (2020). The role of artificial intelligence in achieving the Sustainable Development Goals. *Nature communications*, 11(1), 233.
- Waas, T., Hugé, J., Block, T., Wright, T., Benitez-Capistros, F., & Verbruggen, A. (2014). Sustainability assessment and indicators: Tools in a decision-making strategy for sustainable development. *Sustainability*, 6(9), 5512-5534.
- Wassie, Y. T., & Adaramola, M. S. (2019). Potential environmental impacts of small-scale renewable energy technologies in East Africa: A systematic review of the evidence. *Renewable and sustainable energy reviews*, 111, 377-391.
- Wong, J. K. W., & Zhou, J. (2015). Enhancing environmental sustainability over building life cycles through green BIM: A review. *Automation in construction*, 57, 156-165.
- Zubair, M., Chen, S., Ma, Y., & Hu, X. (2023). A Systematic Review on Carbon Dioxide (CO<sub>2</sub>) Emission Measurement Methods under PRISMA Guidelines: Transportation Sustainability and Development Programs. *Sustainability*, 15(6), 4817.