DEVCON

General Council

Introduction to the Agenda

Sustainable technology is an umbrella term that describes an innovation that considers natural resources and fosters economic and social development. The goal of these technologies is to drastically reduce environmental and ecological risks and to create a sustainable product.

General - Achieving the goal of digital sustainability through smart technology. Achieving sustainable economic growth will require changes in industrial processes, in the type and amount of resources used, and in the products which are manufactured. The remarkably broad-based technological revolution now underway is made possible by information technology. Information technology has the potential to alter how and where people work and live, and thus the nature of urban areas of the future. Technology is changing our reality, and it bringing new difficulties and openings for maintainability. Our industry, Information Technology, at present records for around 3% of worldwide fossil fuel byproduct – more than Spain, Italy, France, and Portugal joined. In case it was a country, the area would be the third-biggest power shopper on the planet – calming realities, when you add to this the normal expansion in web use and the anticipated yearly development of associated gadgets by 12% each year throughout the following decade.

History

During the last century, the development of new technologies has changed and irreversibly changed our world. From economic to social angles, we've seen an intense expansion in the reception of inventive apparatuses throughout the planet. Innovation has for quite some time been viewed as the main impetus for human movement: from the creation of the message in 1844 to PCs in 1937, the ascent of the world wide web during the last part of the 80s just as the dispatch of Google in 1998. It truly is astonishing to feel that these later accomplishments were simply made conceivable because of consistent exploration and persistent advancement consistently. As the familiar axiom goes: "Need is the mother of invention", and it has been one of the fundamental explanations behind the consistently expanding progress of technology.

Digital transformation is of utmost importance in the business world with major impacts on any of its sectors. Here we consider ports and logistics within maritime shipping to exemplify those developments. That is, as actors in worldwide supply chains, seaports are particularly affected by technological change. Due to the high requirements in the logistics sector, e.g., regarding costs, efficiency, security, and sustainability, digital innovation is essential to stay competitive. Past developments show how digital innovation can shape the modernization of ports. To understand

future challenges in this area, it is inevitable to review the outcomes of past developments and their impact on port operations.

Current Progress

Students make the choices about how their audience will respond to the combination of images, words, and sounds. Using visual images to crystallize their outlook may provide students with a deeper sense of how to shape their perspectives by prompting them to make words engage their reader's visual and auditory capacity. They also get the opportunity to take ownership of the project by personalizing the generic assignments, developing their viewpoints, and then moving on to embrace the perspectives of other cultures (Murnen 2007).
The era of green tech is on the rise now, going neck and neck with an uptick of innovative digital transformation. The integration of both, however, has rarely been an option ever before. And only in recent years, there has been explosive growth in attempting to combine digital technology and sustainability. That said, the main challenge of today’s business underlies in finding the balance between these two approaches.

On a large scale, every business involves digital processes in one form or another in order to meet the specific individual needs of an enterprise. Consequently, overall digitalization provides a great opportunity for achieving sustainability goals.

(Technically speaking, each digital business needs to have an effect so it is these days choosing to turn out to be naturally reasonable. Then again, a gigantic need to ponder the fate of the planet and humankind emerges to the extent that the eye can reach. A generally evolving environment, the overconsumption of nonrenewable regular assets, biodiversity misfortunes, broad deforestation, outrageous catastrophic events, huge carbon dioxide discharge, helpless air, and water quality are the genuine difficulties that are difficult to confront alone. Here are the means by which supportability can help a business.)

For sure, all the popular tech trends like AI, ML, Internet of Things, Big Data, edge computing, robotic process automation, and others come to ease our lives. That is why average users, as well as large-scale enterprises, pursue these innovations and changes. For instance, artificial intelligence has been the key to complex data analysis and management aimed at sustainable decision-making in such areas as climate change, air, and water security, biodiversity conservation, disaster resilience, etc.

Digital sustainability is an approach that harnesses one of the most powerful for- ces for societal change, namely digitalisation, to deliver what we need and want in a sustainable way. Further, it represents a 21st-century tool for discussing, reflecting on and assessing our real individual and societal needs and wants.
For a long time, there was a real tension between the satisfaction of our basic needs and the potential destruction of the planet. There were no known ways to provide enough nutrition, basic mobility and buildings for universal sustenance, shelter and survival, without destroying the planet in the process.1 With digitali- sation, it is now possible to provide for our basic needs in a

sustainable way, while also providing transparency so that we can see the consequences of our actions.

In a situation where society is suffering the consequences of excessive consump- tion in many areas – calories, cars, exploitation of natural habitats, to name but a few – digitalisation can provide valuable tools. Companies selling food (such as fast food chains), mobility (cars) and home furniture (retailers) must now consi- der how much is enough – and they can get some answers from scientific resear- ch and by connecting to their customers with smart digital tools. Digitalisation makes it easier to calculate and visualise whether the consumption is sustaina- ble, based on various assumptions, such as equity, room for other species, pollu- tion and overconsumption of natural resources.

Digitalisation is also beginning to play a key role in determining what we want beyond what is necessary for basic survival. Many companies push people to
buy more than they really want, to grow sales and profit. They often do this by portraying certain lifestyles and consumption patterns as attractive, as well as lobbying for conditions that encourage consumption and the creation of new markets. Such practices have a negative impact on the planet; moreover, there is evidence that treating citizens as merely consumers whose happiness depends on the consumption of products is contributing to an increase in mental illness.
2
While digitalisation can help accelerate unsustainable consumption, it also provides new opportunities for a flourishing society based on collaboration and sharing. Researchers, artists, entrepreneurs and citizens have already benefited from new ways to share both things and knowledge, as well as analysing and visualising complex issues.
All this suggests that digital sustainability should not be seen as a traditional sustainability approach, something that is optional and/or an add-on to existing work. Rather, the concept of digital sustainability highlights the need to ask fun- damental questions about what companies are contributing to society and what tools they require to satisfy needs and wants in the 21st century.

Digitalisation refers to a certain technology and its implications and consequen- ces. Digital sustainability is how that technology is used to deliver sustainability. There is very little digitalisation that does not contribute to either digital sustai- nability or digital unsustainability.
Much current digitalisation is incremental, or linear, meaning that it focuses on improving the efficiency of current systems. If those systems are contributing to sustainability, then digitalisation in that context also contributes to sustainability. However, incremental work should be assumed to be unsustainable; it should not be assumed, as it often is, to be sustainable or neutral.

The aspect of digitalisation that is most important is the disruptive, or exponen- tial, aspect, when ICT is used to deliver new solutions that fundamentally change the way goods and services are delivered. Disruptive solutions can have relatively small direct impacts in industries of less environmental importance, such as the music industry, where there has been a shift from CDs to streaming of music.

The reason it is important to emphasise small “direct” impacts is that such solutions can have significant indirect effects, e.g. by making sustainable lifestyles based on sharing and low material consumption attractive, as well as establishing sharing and dematerialisation as viable business models. Other disruptive solutions can have very large direct impacts by delivering solutions in industries that must change dramatically to ensure global sustainability, such as the construction industry and the shift from old buildings and transport infrastructure to smart buildings that are shared and produce more renewable energy than they use.

Approaches

The shift in focus from old products to new ways of providing a service helped the net-positive narrative, as some disruptive solutions offered strong sustai- nability gains, without support from most of the traditional sustainability tools provided by NGOs and governments. The best-known changes are probably those in the music and video industry. In only a few years, the practice of buying physical records and videotapes became obsolete, as people began sub- scribing to digital services. The combination of dematerialisation and renting instead of owning has revolutionised the way people access music, books and movies.
Now similar changes are beginning to happen in transport/mobility, building/ public spaces and food/nutrition. Many of these new solutions are magnitudes more resource-efficient than traditional solutions and much less expensive: think virtual meetings instead of flying. These changes have also resulted in in- stitutional changes, where the service rather than the old way of providing the service is the focus. The shift from travel agencies (which provide only physical travel) to meeting agencies (which provide both physical and virtual opportuni- ties) is an example.

Over the last years, a growing number of companies have begun to shift perspec- tive from doing less harm to becoming generators of good, use the sustainability demands that come from society as drivers for innovation. Instead of trying only to minimise negative impact, these companies are looking at what society needs, such as zero carbon mobility, buildings that are resource-efficient and net producers of renewable energy, inexpensive educational solutions that encourage creativity, and smart health and nutritional solutions, and helping to provide sustainable solutions for these needs
In many ways, the shift to a solution perspective might be the most significant change in the relationship between business and sustainability since the discussion about charity. Historically, the assumption about sustainability in the corporate sector has been that companies are the creators of the problems. The shift from
a problem focus to a solution focus has perhaps been most visible in the area of climate change.

There are three core parts of this vision:

1. A 9 billion filter (which should probably be adjusted to 11 billion or more, based on the UN population division’s latest assessments88) that aims for equity, such that all should live well, not just a few or a majority.

2. A service perspective focusing on food, mobility and shelter, without stating how this should be provided. Whether, for example, mobility is virtual or physical and whether, if it is physical, it is achieved by means of public transport, self-driving vehicles or walking, all depends on what it is possible to provide to everyone within the limits of the planet.

3. Environmental boundaries, again within the limits of the planet, but it is not stated what those limits should be. Whether we should go to the outermost limits or take more of a half-earth perspective89 to allow for a dramatic lowering of the rate of extinctions and give other species room to live undisturbed is an ethical decision.

Using increasing future emissions as a baseline

In many situations, current trends indicate that emissions will continue to grow, especially in emerging economies. A company that provides solutions which help reduce emissions compared to such a baseline can calculate these.

Comparing future emissions reductions resulting from the introduction of a low-carbon solution (future achieved emissions) to a BAU benchmark of growing GHG emissions may show a significant reduction in GHG emissions (see Figure 8), even though actual emissions compared to a historical level (what has been emit- ted so far) are still growing over time (see Figure 8, right).

This approach is often used today as companies look at the relative benefits of their new (often marginally) improved products. This can lead to the conclusion that the climate benefit achieved is going in the right direction (claimed emission reduc- tions), when in fact more GHG may still be emitted into the atmosphere compared to historical emissions (what has been emitted so far from the products a company provided). Using this benchmark allows a company to grow without considering the impact on the planet and still report “climate benefits” from their solutions. If the calculations are done over decades, it is important also to calculate the absolute increase in the atmosphere, as absolute reductions are necessary across the globe in the medium to long term.