

# Operational Sustainability and Digital Leadership for Cybercrime Prevention

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## Abstract

The digital world of work and social media, despite its challenges, is here to stay as an integrated part of our day-to-day operational norms. Therefore, we must make the best of it on a proactive basis before the private data of our employees and consumers becomes hacked remotely by criminals. Privacy violations and hacking of data cannot be sustained since they can be very costly and may even lead to bankruptcy. As such, today's leaders, managers, and educators have the responsibility of preparing their future replacements for the modern digital economy, so their organizations' operational processes can remain competitive, safe, and sustainable. Operational sustainability, in this paper, is proposed as a tripod or "three-legged stool" of environmental, social, and digital responsibility. With more employees and entrepreneurs accessing digital data remotely through vulnerable or unsecure online platforms, the opportunities for cybercrimes rise. Therefore, this article focuses more on the often-neglected digitalization element of operational sustainability. All leaders must be aware of the legal, social, and environmental expectations of a digital society by doing what is good for the world while also being efficient and safe from cybercriminals. The paper proposes that future leaders must be socialized with a sustainability mindset about data privacy and safety measures that are necessary for this fast-changing digital economy where hackers and artificial intelligence (AI) tools can make the process more challenging. With AI being used by some actors to generate false yet realistic content, companies will have to do more to make sure their brands are not defamed or tarnished. As such, this conceptual article discusses a model for operational sustainability, which includes the privacy and safety of data that can be used by managers, educators and other leaders for training and development purposes in today's digital world of work.

## Keywords

Sustainability, Digital Responsibility, Leadership, Hackers, Phishing,

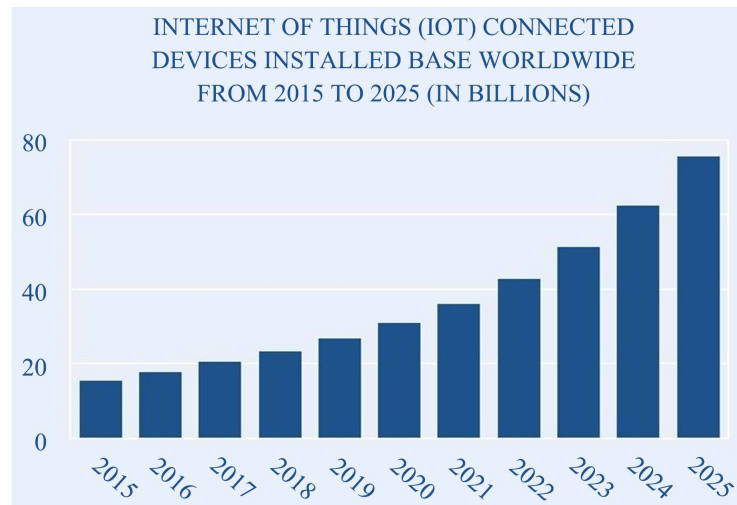
## 1. Introduction

Sustainability and digitalization are concepts that are at the forefront of every manager and every leader's mind today. Sustainability can be seen as the ability to avoid the depletion of natural resources, so we can maintain an ecological balance for the current and future generations in a digitally transformed world [1] [2] [3]. Digitalization, which is the adaptation of systems and processes that have enabled businesses to buy and sell products with computers, is an integrated part of being sustainable in organizational operations [4]. Yet, despite proactive adaptation efforts, it was predicted long ago that modernism would bring about challenges, changes, and new legal policies to effectively secure the privacy of employees' and consumers' data [5].

During the month of September 2023, hackers were able to steal the private data of employees and consumers by hacking and locking computer systems operated by such giant brands as Caesars Entertainment, MBG Resorts, etc. in Las Vegas. The hackers prevented the companies from properly serving their clients, locked customers out of their rooms as digital keys became useless, guests could not make payments using credit cards, and private information such as social security and driver's license numbers of loyalty program members were stolen. Using various social engineering or phishing attacks by posing as an IT support employee or contractor, the hackers were able to break into the computer systems, lock them up, and demand millions of dollars in ransom. Many firms have paid millions of dollars demanded in ransom to get access to their data. While digital transformation can make our lives easier, it comes with some costs and risks.

Over the past decades, most industries went through digitization as they scanned and stored data as analogs into various folders for quicker and easier access by computer technologies. The next stage, digitalization describes the adaptation processes to create and provide more value, while digital transformation (which encompasses both digitization and digitalization initiatives) requires all organizations to safely create new opportunities and services by being customer-centric in the era of big data [6] [7]. As shown in **Figure 1** regarding the increasing use of connected devices, it is clear that "digitalization is progressing in leaps and bounds" due to "technical progress, constant further development of the Internet, mobile applications, and technologies based on artificial intelligence, and increasing globalization" [8] (pp. 82-83).

We are now living in a digitally transformed world where a person's privacy can easily be violated, and personal data can go viral and become publicly available all over cyberspace in a matter of seconds. Recent data confirms that 85% of Americans believe that today's leaders and organizations need to do more and be active or intentional in protecting their stakeholders' personal data that they



**Figure 1.** Trends on connected devices from 2015-2025 [8]. Source: <https://www.andritz.com/spectrum-en/latest-issues/issue-39/digitalization-as-a-megatrend/>.

collect through cookies or other online transactions [9]. Without consumer trust, no organization's success can be sustained over time in an efficient or productive manner [10]. Torelli [11] mentions that "Nowadays, 'sustainability' is a very widely used term in policy contexts, businesses, and third-sector organizations". Additionally, it has been emphasized that,

The concept of sustainability is usually divided into environmental, social and economic (ESE) dimensions. More broadly, sustainability/unsustainability has impacts on political, institutional and cultural contexts as well. It is from these tangible impacts and the changes taking place, particularly with respect to ESE dimensions, that attempts to respond began to emerge from different actors and from national and supranational institutions [11] (p. 719).

A fundamental element of every manager or educator's job is to prepare leaders in society as managers, entrepreneurs, executives, and public servants who can quickly adapt to the digital world and remain economically sustainable [12]. Another fundamental responsibility of a modern leader is to help others understand not merely the economic or legal, but also the ethical, social, and environmental responsibility ramifications of operational decision-making in today's digitized world, as everyone attempts to create long-term value for their firms and communities where they live [13]. Of course, value-creation cannot happen if the privacy rights of stakeholders and data safety cannot be sustained [14]. Fears regarding modern technologies, coupled with globalization trends, have brought about elements of cultural convergence and divergence in the global environment. Cultural convergence is the tendency of different cultures to become similar in norms and traditions through increased interaction by people from different nations. In contrast, cultural divergence is how cultures try to maintain

their norms by resisting external influences despite technological pressures favoring homogenization [15]. So, what happens in one culture or country impacts others as emphasized by Katanich [16] regarding how “China curbs cost Apple \$200 billion almost overnight”. The quick decline in Apple’s market share was due to concerns regarding the possibility of a restricted use of iPhones in China. Despite cultural convergences, there are many such difficulties as multinational firms try to sell their technological innovations worldwide. Modern leaders, entrepreneurs and organizations must remain flexible, adaptable, and have contingency plans to effectively deal with the ups and downs of the modern world.

Modern technological advancements in the age of “Internet of things” coupled with the widespread use of the Internet through social media platforms, have reduced privacy as every transaction provides an opportunity for personal data to be stored on “cookies” or leaked to unethical users and criminals [17]. Consequently, “we see that hackers and law enforcement officials alike can easily access anyone’s computer, phone contacts, text messages, and call history from mobile devices without the person’s permission and without notice” [18] (p. 122). Along with the conveniences associated with technology, come some disadvantages or negative challenges that must be mitigated if firms are to have operational sustainability. This paper provides an overview of sustainability in today’s digital world to help leaders develop a “sustainability” mindset for all their operations in today’s digital world to keep data private and safe. As such, it is necessary to understand sustainability and leadership in the context of a digital world as an integrated and interdependent whole. It has been said that,

To create economic value, companies use and therefore consume various types of resources (financial, natural, human, social/relational, and intangible). If we configure a simple calculation of initial economic resources compared to the final resources embodied in the goods/services proffered by companies, we would not consider most of the processes of destruction/creation of value that take place around and within the activity of a company and that concern spheres other than the economic one. If instead, we look at the company within its context of reference, we cannot consider it as an entity separate from and independent of the external environment. Rather, it is an integral part of the context in which it is inserted, and that context is affected (positively, negatively or neutrally) by the company’s use of inputs and by its final production of outputs and outcomes [11] (p. 720).

Sustainability obligates all human beings to respect our limited resources, ourselves, and our lives, along with the coming generations and their planet. Some refer to this concept as “an eco-centric vision of the nature, where the nature and the living beings (animated such as animals and plants) have a basic intrinsic value, that is not born from a human way of seeing nature or a human calculation” [11] (p. 721).

## 2. Sustainability Obligations

Modern leaders are expected to make sound financial and sustainable decisions and to act in a legal and moral manner since any other option is likely to be seen as unethical or irresponsible. Today, society has thrust another obligation on the leader; and that is to ensure that his or her firm acts in a digitally responsible, socially responsible, and environmentally responsible manner [19]. Social responsibility means that business is being a “good corporate citizen” by contributing to charities and getting involved in the community with civic and charitable activities and endeavors [20]. Although there may be no legal duty to contribute to local charities, it is an instrumentally good thing to do so. However, currently, social responsibility includes a “sustainability” component. Sustainability is thought of as a *means* in the form of environmental protection and conservation, and it is construed as an end. That is, when possessing a sound financial foundation and acting legally, morally, and in a socially and environmentally responsible (*i.e.* as the means) manner, the leader will be able to achieve success and sustainable success for oneself, one’s firm or organization, one’s community, society, and the planet and future generations [13]. Accordingly, it is very important to reflect on these key concepts correctly and clearly, so that they may be fully understood and applied.

Corporate sustainability means companies taking a long-term perspective in creating value in financial, economic, legal, ethical, social, and environmental terms [21] (p. 17). Moreover, “today, it would be implausible for any global company to exclude sustainability from its agenda” [21]. The global business leader today must take cognizance of these societal expectations and display leadership in dealing with these concepts in an integrated manner. The business leader must “shows the way” and be a “shaper” and “designer” of sustainable operation as he/she leads, inspires, motivates, influences, and manages based on a long-term perspective for the creation of value for the organization and all its stakeholders [22]. Cavico *et al.* [12] as well as Fray and Soparnot [23] emphasize that a good leader and manager is one who is responsible for and open to his/her surroundings, has a sense of citizenship, stays aware of his/her co-worker’s impact on the company, and can successfully handle not only economic issues but also legal, ethical, and social ones through a long-term orientation. Being a leader also means that one has the authority, rights, and responsibilities for making moral and sustainable decisions, including those obligations based on societal expectations as to the proper conduct of business. Effective leadership and management include sustainable development, corporate social and environmental responsibilities [24], long-term performance, equity and fairness for all stakeholders, diversity management, and serving as responsible citizen in all operations.

Modern leaders must reflect upon the values of practical economics, social responsibility, and stakeholder interests, and their relationship to sustainability in a digital world. They must do so because of a societal expectation that busi-

ness today will not only act in an economic and legal manner, but also in an ethical and socially and environmentally responsible manner during this digital transformation. Both organizational and cultural changes are difficult to attain; and it takes time, money, and education to bring about relevant behavioral changes for long-term leadership and sustainability. Nonetheless, rising economic costs as well as societal pressures will eventually force society to bring about such changes for reducing and reusing products rather increasing waste and societal “carbon footprint”. In other words, just as we transitioned and adapted to digitalization, we must become socially and environmentally responsible and make smart decisions that are sustainable over time. Since there clearly is more and more discussion now on “sustainability”, the ultimate solution would be to conserve, reduce, recycle, and reuse, as all other options will be too costly. Accordingly, it is very important for all of us around the world, especially those people in leadership positions, to think of “sustainability” and things that we can personally do at our own individual levels to conserve energy, decrease waste, and to protect the environment amid this era of digital transformation.

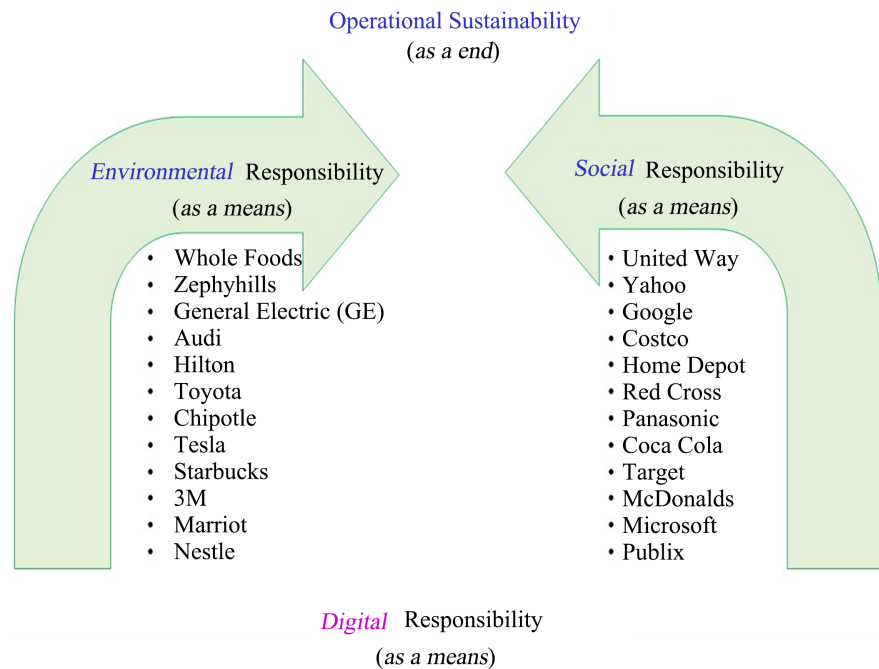
According to Torelli [11] (p. 732), “A change of perspective could be decisive both in the academic world and in the world of management and companies” before sustainability can take root as the foundation of each culture. He goes on to suggest that “scholars can bring to light and give the right emphasis to the importance and desirability of behavior that is effectively responsible and oriented towards meaningful sustainability and that does not stop at words or slogans”. It would be fruitful for future studies and researchers “to understand the ways and means with which a company or organization can at least try to reduce its environmental and social footprints on the planet” [11] (p. 732). In today’s digital world, the obligation of private and public sector institutions is immense and, therefore, all managers should emphasize sustainable leadership as a critical component of their long-term success. Researchers continue to emphasize that,

Companies can and should play a role in meeting sustainability objectives so that meaningful and tangible changes are made in terms of reducing deleterious environmental and social impacts. The impacts, influences and outputs generated by these are manifold and of different types (both negative and positive), consequently also the possible actions of improvement and redirection of the underlying processes are numerous and of various types. It is clear from the current situation that actions which have thus far been implemented are not sufficient to create and maintain a change of course that could lead to a different conception of development and progress. While it is very likely that the actions are far outdated by the words and proclamations of the media, it is also likely that the good and concrete actions and future programs put in place are not entirely sufficient to counteract and reverse a situation that is now in danger of becoming irreparable [11] (p. 732).

### 3. Sustainable Leadership

Effective leadership is the process of influencing others toward a predetermined and desirable destination through ethical means, while also providing an environment where personal, professional, or organizational objectives can successfully be achieved. Any individual who exerts any form of influence that guides behavior toward a predetermined ethical and sustainable objective is a “leader” [22]. Leadership and sustainability are interdependent concepts for long-term success, and both can happen simultaneously as they are not mutually exclusive. Leaders that do not remain leaders for the long-term can be seen as merely “transactional” as they use punishment and rewards to get what they want. Transformational or sustainable leadership, especially regarding greenery of the environment, is about effectiveness or doing the “right things” in the right manner so society can be better off as its outcome [25]. Sustainable and transformational leaders focus on people as well as task-oriented behaviors. Sustainable and transformational leaders adapt their behaviors to fit a broad range of individuals, stakeholders, and variables impacting their situation [26]. Effective leaders diagnose, adapt, and communicate based on the readiness of their followers in the workforce and other situational variables [27]. Sustainable leadership may require influencing and persuading others over whom one has no position of power or any direct authority [26]. The sustainable and transformational leader empowers others to take ethical and responsible actions when he or she feels it is necessary. A fundamental goal of transformational leadership should be to develop leaders who are aware of societal expectations and the concomitant responsibility to ensure that each business acts legally and morally based on ethics, in a socially and environmentally responsible manner, and contributes to overall societal sustainability throughout their operations.

According to Cavico and Mujtaba’s [13] model, sustainable decision-making requires that managers focus on having an efficient process that eliminates any waste in the production process. As such, for an efficient operation, one must think of environmental responsibility and social responsibility [28] [29]. Environmental and social responsibility do not directly focus on the impact of digitalization which has reduced the use of paper and deforestation, but it also has increased opportunities for the violation of privacy rights and personal data being stolen by cybercriminals. As such, this paper adds the element of digital responsibility to Cavico and Mujtaba’s model of operational sustainability factors (**Figure 2**) so leaders can also focus on keeping employee and consumer data private and safe for the organization’s sustainable success. As such, operational sustainability can be seen as a “three-legged stool” that is made up of an environmental responsibility component, aligned next to its equally significant counterparts of social and digital responsibility components. In other words, environmental responsibility by itself without being socially and digitally responsible cannot be sustained for long. Similarly, digital and social responsibility without being equally concerned about the impact of one’s operation on the environment or community cannot be sustained for long either.



**Figure 2.** Operational sustainability factors in a digital world (based on the model by [13]).

The environmental responsibility element of having a sustainable operation shows that many firms are involved in recycling, waste management, emission control, carpooling, keeping the environment green and clean, and paperless billing type activities [13]. Regarding the social responsibility element of sustainable leadership, firms can be involved in community outreach programs, serving the homeless, hiring and accommodating those with various disabilities, reducing poverty, proactively preparing for natural disasters, educating and training the future workforce, volunteering to work with charitable organizations, creating opportunities for young people to develop skills for acquiring good paying jobs, and keeping senior citizens employed with suitable part-time jobs [30] [31] [32]. Regarding the digital responsibility element of sustainable leadership, which is often not covered sufficiently in the sustainability literature, organizations can focus on respecting the privacy of employees and consumers while keeping their data safe from hackers and cybercriminals [33] [34].

Modern organizations and leaders must become stewards of their firms' and their local communities' data and privacy rights if they are to remain competitive and sustainable by meeting the needs of their customers and other stakeholders in an efficient and timely manner. Stewardship demands a good understanding and acceptance of each firm's interdependence with society and the general environment where the organization operates. It is critical for modern firms and leaders to "grow" their profits in a responsible, ethical, and sustainable manner which includes privacy rights and data security. Sustainability can be interpreted as a MEANS (in the form of beneficial environmental actions, such as reducing the firm's "environmental footprint" by cherishing the positive ele-



ments of digitalization in society) and as an END (having a sustainable organization, society, as well as a sustainable planet, for future generations) by respecting everyone's privacy and keeping their personal data safe [13].

Regardless of whether an action is being used as a means or an end, sustainable leaders should understand how intrusive technologies can complicate an operation, as well as the privacy and safety of data in the organization. Policy makers and legal experts must work on protecting people's rights by keeping pace with the digitalization era. As was explained over a century ago,

This development of the law was inevitable. The intense intellectual and emotional life, and the heightening of sensations which came with the advance of civilization, made it clear to men that only a part of the pain, pleasure, and profit of life lay in physical things. Thoughts, emotions, and sensations demanded legal recognition, and the beautiful capacity for growth which characterizes the common law enabled the judges to afford the requisite protection, without the interposition of the legislature [5] (p. 194).

When private data are intentionally or unintentionally stolen or leaked in this digital world, the transmission can cause "emotional harm", especially on impressionable young teenagers who are often inseparable from social media and more susceptible to being bullied, harassed, and the development of mental health concerns. Therefore, sustainable leaders must understand the importance of privacy rights and the safety of data in their operations in this era of digitalization.

#### **4. Privacy and Safety amid Digitalization**

Digitalization has been part of every industry, and the COVID-19 pandemic closures quickly increased remote work since digital files can be accessed from any location. We are now living in the digital era where workers and managers can perform their duties without being present in a particular office, department, or city. More people are reporting a preference for having the option of remote work all the time or at least part of the week and many firms are offering such flexible options to attract and retain top talent [35]. Naturally, with work going online and employees remotely accessing digital files, more firms' data become vulnerable to hackers and cybercriminals. As a result, we are seeing double-authentication procedures and other strong password policies which have become the norm for operational efficiency and sustainability to keep data private and safe as more tasks are now outsourced or performed by telecommuting "gig workers" [36].

The recent COVID-19 pandemic allowed more employees to participate in telecommuting as a normal form of work and it has changed the way most tech-savvy businesses operate. According to Parker [37], six-in-ten working professionals state that their jobs can be done remotely with nearly 60% working in a remote position after the pandemic. Telecommuting or working from home or remotely using the telephone, email, and the Internet [38], gives employees independence,

freedom, and flexibility as they can work virtually anywhere. Some organizations provide technical support for telecommuting, such as laptops and IT support to help their employees work safely from home. Despite associated risks regarding data being breached or shared with competitors, some firms outsource important digital functions and data to trusted vendors [39]. *Outsourcing* involves farming out certain value chain activities to outside vendors and narrowing the scope of internal operations [40]. It is a process that transfers resources and responsibilities to perform a specific task to a third party [38]. The significant risk of outsourcing “value chain activities is that it reduces the company’s capabilities to be a master of its destiny” [40], and data leakage possibilities rise.

According to Tsekov [41], due to the impact of AI and modern technologies, there will be a significant shift in the workforce landscape, and the need to seek differentiation in human talent and customer service skills. As AI technologies become a more integral part of business operations for many IT outsourcing companies, there will be a greater need to relate and reflect on the benefits and negatives of such changes. Currently, about 25% of companies are adopting artificial intelligence because of difficulties in recruiting and retaining top talent, and a whopping 64% of the businesses expect AI to increase workplace productivity [41]. Nonetheless, the increased use of AI technologies along with outsourcing comes with risks related to loss or hacking of data as well as legal and cultural differences in managing outsourced functions. Outsourcing involves vendor management, risk mitigation, and coordination of business operations across borders and cultures to make sure privacy is not violated and data are kept secure throughout the value chain.

Modern technology and human resource professionals play important roles in the effective performance management of outsourced functions and telecommuters [6]. Technology influences companies to have web-based performance management systems, create proper social media pages or accounts that inform consumers and promotes trust, and to use electronic tracking and monitoring of employees, vendors, and customers [42]. By having a web-based performance management system the company will be able to have real-time information regarding employees and how well they are aligned with the company performance goals. Furthermore, this will empower managers to address performance goals with employees in a more efficient manner. This real-time information access allows employees to be able to see their performance data and obtain an explanation of each aspect of the performance process and ways to improve them. Social media and microblogs such as Facebook, Twitter, YouTube, and LinkedIn allow for exchange of information among employees which foster opportunities for quick communication, coaching, and timely feedback through electronic platforms. Most large companies use modern technology and various software programs to keep the organization safe by monitoring some employee activities at work and to also restrict access to inappropriate or unproductive websites. Such monitoring and restrictions allow employers to ensure that employees are utilizing the Internet in ways that are safe, productive, and

work-related [43].

The digital transformation, using modern technology, along with the growth of e-commerce has brought about economies where employees and consumers now have regular access to the Internet [18]. This access to the cyberspace superhighway is like a two-edged sword that comes with advantages and disadvantages. Just like employees and consumers, cybercriminals and hackers can also use their Internet technology skills and security gaps to pray upon anyone and everyone to enrich themselves by hacking into people's personal and professional computers for ransom, to manipulate information, and/or to destroy competitive advantages. Of course, terms like stealing, hacking, ransom, and manipulation of data are contrary to ethical or responsible behaviors that should be demonstrated by leaders who want to be role models. When an action or behavior is deemed responsible, it is then and only then that it can also be sustainable and ethical. Otherwise, the act or behavior will be seen as a forgery or deception, where it "is an end in itself or for purely individualistic and utilitarian purposes" [11] (p. 730). Since we are all now experiencing the growth and development stages of digitalization, the Internet, and e-commerce along with data breaches, sound legal and practical policies must be continuously created, adapted, and revised as necessary to keep individuals and organizations safe from hackers. Cybercriminals adjust their techniques for stealing information, and so should modern leaders in how they guard their valuable networks and privacy data so operations can be sustainable over time.

Cybercriminals commit their crimes for a variety of reasons and protection mechanisms must be put in place to guard against all such offenses to protect the privacy and safety of employees, consumers, and organizations. Criminals use many tools to get data using legal and illegal means such as asking for it through various means, sometimes through practices such as phishing, spear phishing, and whaling. *Phishing* is a type of social engineering technique criminals use to attack and steal user data. *Spear phishing* describes a situation when a group or individual attacks a "specific" organization or individual by sending them a false or scam email to steal information such as banking details and data from their employees, consumers, and other victims. *Whaling* is a form of email aimed at attacking anyone who is seen as "high-profile" such as chief executive officers (CEOs) of corporations, politicians and even celebrities. Tips to avoid phishing in the modern workplace include managers creating awareness of such hacking vulnerabilities and do some or all the following which are recommended by experts:

- 1) Educate yourself and employees, key vendors, and customers about online fraud and how to identify phishing emails.
- 2) Flag all suspicious emails that come from outside the organization.
- 3) Discuss the use of social media with the executive teams as it relates to phishing, privacy, and data safety.
- 4) Establish a multi-step verification process for all requests for sensitive data

or wire transfers.

5) Exercise data protection and data security policies.

6) Know that emails which demand “fast” action that they might be a scam as people who sent the emails often count on the recipients to respond quickly, before anyone notices that it is a scam.

7) Emails with spelling mistakes or grammar errors can be a red flag for employees to look out for as it might be a scam.

8) Look for things that do not match; for example, the logos, domain names and email addresses which might be slightly different. If something looks suspicious, then don't respond as the email is probably fraudulent.

Cybercrimes happen locally, nationally, and internationally around the globe and anyone can be a victim or a perpetrator. For example, Ercan Findikoglu received an 8-years prison sentence for organizing, leading, and carrying out cyberattacks on the global financial system during the years of 2011 to 2013, which caused losses close to \$55 million in many countries. A 31-year-old, Timothy Livingston, was found guilty of conspiracy to commit fraud in connection with illegally accessing computers, emails, and identity theft as reported by the U.S. Department of Justice in 2017. He was sentenced to serve four years in prison.

Another headline example is the article entitled, “*FTC Sues Kochava for Selling Data that Tracks People at Reproductive Health Clinics, Places of Worship, and Other Sensitive Locations*,” where the agency charges that the firm's geolocation information from millions of mobile devices can be used to personally identify specific individuals and trace their movements [44]. Apparently, the Federal Trade Commission (FTC) was suing data broker Kochava Inc. for selling geolocation data that should have remained confidential. The goal of FTC has always been to protect sensitive consumer data, including geolocation and health information of all citizens, from being misused by falling into the hands of criminals, protestors, and extremists [18]. As an unfortunate consequence of modernity, such crimes in the digital era have become more common, but we all know they are not sustainable and cannot be tolerated for long as it can easily lead to failure or bankruptcy.

Taylor, Fritsch, Liederbach, Saylor, and Tafoya [45] (p. 111) mention that espionage has been around for many centuries as basic tradecraft secrets were initially stolen in the 1700s from China by the Europeans so they could more effectively compete with the superior products produced by the Chinese porcelain manufacturers. So, there is industrial espionage, economic espionage, and corporate espionage which have become more common in this digital era but are not sustainable since it is a zero-sum game of win-lose or lose-win. The availability of applications such as ChatGPT and modern artificial intelligence tools will make it more tempting for local, national, and global criminals to commit crimes without being easily detected.

Wozniak [46], Apple's co-founder with the late Steve Jobs, states that artificial intelligence helps human beings solve complex problems, but it can also be used by scammers and cybercriminals to scam people, steal data, and commit crimes

more intelligently. As such, in the coming years, people, corporations, and governments should become more secure as online scammers are likely to increase their attacks which are not sustainable. For example, a bank crime organized and initiated in Maharashtra, India, was a \$14 million heist through the hacking of ATM machines in multiple countries across the globe. The hackers used VISA's ATM cards that were issued to a bank in Pune, India. There were more than 20 ATM's that were affected by the heist. The assailants were under the impression that the money that was being withdrawn was for a part in a movie. It was reported that they assumed roles as extras in an elaborate heist, not an actual movie but a fake made-up one [47].

Nowadays, scammers can use applications such as TikTok, Snapchat, LinkedIn, and Facebook in their AI schemes to steal personal data. Scammers can take one's post and use his/her image, voice, and location to use for a trip they are planning. Raasch [48] mentions that Jennifer DeStefano was an example of a scam using the AI generated voice of her daughter. The scammers used Mrs. DeStefano's daughter's voice in a scheme of pretending that she was kidnapped, and they were asking for money for her daughter's safety. It was reported that the mother believed that the voice seemed so real that she was scared for her daughter's life. In this scenario, she quickly found out that her daughter was safe and did not fall victim to these scammers. The story shows that modern local, national, and global scammers will go far to steal money from innocent individuals which cannot be sustainable in any society since it discourages the use of modern technology and decreases trust. All social media users must be extra careful and watch what their family members, especially young kids, are posting online. Social media and AI will continue to be used to illegally monitor people in hopes of stealing their personal data for misuse.

The Idaho Community Hospital felled victim to a cyberattack at the end of May 2023. The cyberattack disrupted their computer network and caused the healthcare facility to divert ambulances to other medical facilities. Of course, such attacks mean "life or death" for urgent emergency patients that need immediate care or constant care. This unfortunate cyber-attack caused medical professionals and staff to rely on the use of pen and paper to take care of their patients [49]. It is very possible that some healthcare facilities are quietly paying ransom to hackers and not reporting them, which means the problem continues as more and more unsuspecting facilities become victims. Of course, none of these actions are sustainable at the individual or organizational levels, which means immediate cybercrime prevention strategies are necessary for operational sustainability in this digital world.

The good news is that leaders around the world are all realizing that they need to cooperate to root out cybercrimes. As a matter of fact, Joseph James O'Connor, on April 26, 2023, was extradited from Spain and pleaded guilty before U.S. District Judge Jed S. Rakoff to charges which included [50], 1) conspiracy to carry out computer hacking along with his co-accusers to utilize a digital interruption strategy known as a SIM trade assault to take thousands of cryptographic monies

from a Manhattan-based digital money organization; and 2) PC interruptions connected with takeovers of TikTok and Snapchat client accounts and cyberstalking two separate victims. Apparently, Joseph used his sophisticated technological skills for malicious purposes to conduct a complex SIM swap attack to steal cryptocurrency, hacking Twitter, conducting computer intrusions to take over social media accounts, and even cyberstalking victims, including a minor child. This conviction shows that law enforcement leaders are joining hands to punish those who victimize others through cyber-attacks in a flagrant, intentional, and malicious manner. Joseph harassed, threatened, and extorted many of his innocent victims, causing them and their family members substantial emotional harm and distress which were not sustainable. He was able to stay anonymous using his computer skills to hide behind secret accounts and aliases. It is great to see that global leaders, investigators and prosecutors can identify, locate, extradite, charge, and bring to justice such local and global criminals to ensure they face the consequences for their crimes in a timely manner. Without coordinated and continuous cooperation among the global leaders across nations, our modern technological advancements cannot be sustained as other options can quickly result in huge costs and interruptions to individuals and families, entrepreneurs, as well as to institutional operations.

To gain a balance in operational efficiency and sustainability in today's digitally transformed workplace, we are also seeing more entrepreneurs and companies implementing a hybrid work model, where some employees go to the office part of the time and work remotely at other times. According to Gifford [35], the days of working remotely or from one's home increased from 5% to 50% in the U.S. during the peak periods of the COVID-19 pandemic. However, most researchers believe that this trend of remote work would be about 20% in non-pandemic times. So, remote work and accessing sensitive files online is here to stay in every industry, which makes organizations more vulnerable. Modern leaders and managers continue to struggle in remote workers working safely from home, while being fully engaged, motivated, and updated through ongoing collaborations with their peers. Modern leaders play a very significant role in keeping data private and secure by effectively managing and properly designing their operational processes for remote access to digital data. Research has consistently confirmed that organizations with strong leaders and managers could adapt more quickly to a remote working environment that is sustainable [35].

## **5. Responsible Behavior Modeling and Entrepreneurship**

Behavior modeling and training (BMT) is a form of learning that is focused on observing and imitating specific types of behaviors, skills, or actions. Behavior modeling is a just-in-time (JIT) training and development approach for workers because people can learn by watching and imitating the behaviors of others who have mastered a certain skill such as data security. This type of training approach is used commonly across a variety of fields to help individuals gain new skills, as well as improve existing skills. According to research, behavior model-

ing is one of the most effective techniques for teaching interpersonal skills [42] (p. 298). Behavior modeling requires first explaining to trainees a set of established behaviors and skills to be learned. The second step is to provide examples displaying how to make best use of those behaviors. The third task is to present opportunities for participants to utilize those behaviors. The fourth step gives feedback and encouragement from others to participants that follow the practice. The final task is to take steps to improve the ability to regularly apply those behaviors on the job. Behavior modeling can be used to develop a range of skills, including technical abilities like safely utilizing computer software to prevent hackers from illegally accessing private data. Behavior modeling can also be used for operating complicated machinery and equipment as well as developing social skills like managing conflict, interviewing, persuasive speaking, and navigating diverse cultures across the globe [51]. Each professional or senior employee, especially managers, can play an important role in helping the company foster and maintain an inclusive and engaging environment, where everyone contributes to protect the security of data in a sustainable manner [52]. Organizational leaders, especially entrepreneurs, must model high standards which build each employee's confidence and help new employees adapt faster to the job demands of a digitally transformed workplace [53].

Entrepreneurs, intrapreneurs, and public sector managers are all accountable for being transformational role models by behaving responsibly so that their operations can be sustainable over time. Of course, "the concepts of sustainability and responsibility intersect and seem to overlap", since "being sustainable and taking care of your present and your future by not exploiting resources more than there are, easily translates into responsible behavior, in which you are taking care of someone/something according to their problems and needs" [11] (p. 721). As such, an important challenge for entrepreneurial leaders is that business is expected to always act in a socially and environmentally responsible manner [54]. The societal expectation of this responsibility is thus above and beyond the law as well as morality/ethics [12]. Cavico and colleagues [12] point to three levels of socially responsible initiatives such as:

- Generating savings while reducing the ecological "footprint" and improving the social/community impact. Examples are energy assessment and identifying energy savings opportunities, reducing waste, and reusing and recycling.
- Creating new value for customers and environment/community. An example is Starbucks' use of sourcing coffee from fair-trade organic growers.
- Embedding the principles of social responsibility and sustainability into the corporate strategy, therefore influencing competitors and new regulations that raise the standards for all. An example is Wal-Mart creating the Sustainability Index, which helps the retailer and its suppliers to improve the sustainability of the products their customers love, and to strengthen customers' trust in retailers and the brands they carry.

It is recommended that socially responsible actions and activities be tied to the

image, brand, products, and services of each organization. Entrepreneurial leaders, through innovative socialization and orientation pedagogies, must be inculcated to engage in smart, shrewd, and strategic social and environmental responsibility [55]. And the rationale for being socially and environmentally responsible is the maximization of their own self-interest along with that of the firm, community, and society.

When researchers reflect on and talk about corporate social and environmental responsibility or sustainability, they cannot and should not exclude the concept of ethics [56]. Ethics is about the moral principles that govern each person's behavior or action at any given time. So, ethics is the study of what is morally right and wrong. "Business ethics is an important branch of research between philosophy and economics that studies the behavior of companies vis-à-vis how respectful and compliant they are with ethical standards and moral values" [11] (p. 726). A socially responsible business and ethical *entrepreneur* can be a person who seeks a profitable opportunity and takes the necessary risks to set up and operate a sustainable business. These sustainable-minded entrepreneurs:

- 1) Differ from many small-business owners in their strong desire to *make their business grow* in a responsible manner without doing harm to any stakeholder in the community.
- 2) Differ from managers through their *overriding responsibility* to use the resources of the organization to accomplish their goals.
- 3) Are *willing to take calculated risks* to innovate and serve various stakeholders fairly and ethically.

Entrepreneurs can range from classic entrepreneurs who pursue business opportunities and allocate resources to a serial entrepreneur who starts one business, runs it, and then runs additional businesses in succession. Social entrepreneurs focus on solving society's challenges through their business [57]. While profit is an important motive, people become entrepreneurs often because they have a desire:

- 1) To be their own boss.
- 2) To succeed financially.
- 3) To establish job security.
- 4) For a better quality of life.

Modern leaders should encourage responsible entrepreneurship which includes respecting privacy rights and data security. Factors that support and expand opportunities for entrepreneurs include globalization, education, information technology or the availability of Internet of things, digitalization, demographic changes, and economic trends. As data shows, growth in entrepreneurship is a worldwide phenomenon. However, not all entrepreneurs are successful in a sustainable manner, often due to various causes such as greed, not adapting quickly or properly to the era of digitalization, ineffective management, or not having a good business plan at the outset. Some businesses and initial plans fail for the following reasons:

- 1) Goals set by the entrepreneur are unreasonable.



- 2) Goals are not measurable.
- 3) The entrepreneur has not made a total commitment to the business or to the family.
- 4) The entrepreneur has no experience in the planned business.
- 5) The entrepreneur has no sense of potential threats or weaknesses to the business.
- 6) No customer need was established for the proposed product or service.
- 7) Sustainability measures and community impact were not considered.
- 8) The plan was not digitally available nor communicated properly to all the relevant stakeholders such as employees and successors.

Maximizing profit at all costs often drives some businesses to their demise because such motives are not sustainable. According to Jerry Greenfield (2017, personal communication at Nova Southeastern University in Fort Lauderdale), like the responsibility and objectives of organized religion and democratic governments, business has a huge impact on the community. The challenge for most firms is that businesses tend to only look out for themselves and their stockholders. As partners, both Ben and Jerry observed that some businesses were acting in a selfish manner as they operated only to make money. Ultimately, Ben and Jerry came up with a new definition for business that “*Organized human energy + Money = Power*”.

Using this formula, Ben and Jerry aimed to continue expanding their organization while using this business power to contribute toward social and *environmental* issues. Jerry Greenfield believes in the following philosophies:

- As you give you receive.
- As you help others, others help you.
- As your business supports the community, the community supports your business.
- As you help others, good things come to your business.

Such a reciprocal philosophy of “what goes around comes around” can be a driver of effective and socially responsible entrepreneurship which leads to tangible actions that can make firms more sustainable. For example, at Ben & Jerry’s Ice Cream, they have had a two-part bottom line to measure annually:

- 1) How much money did we make?
- 2) How did we improve the quality of life in our community? What kinds of social and environmental impact did we have on the community?

## 6. Summary

Cybercrimes of the modern digital world, where remote work is becoming the norm, are often purposeful and intentional choices by skilled professionals to make a point or just to “get rich quickly” by “making a quick buck”. Many leaders fear that cybercriminals will use AI technologies for misinformation and stealing data. Regardless of the criminal’s motive, all such activities as stealing data, piracy, hacking, cyberstalking, and violation of people’s privacy are illegal

and must be guarded against on a proactive basis by responsible individuals, entrepreneurs, organizations, and governments, so they can have operational sustainability. Operational sustainability is about environmental, social, and digital responsibility concurrently as they are not mutually exclusive. With the integration of modern technology in this hyperlocal, hyperconnected and complex digital work environment, leaders and employers must do everything they can do legally to continuously protect their employees, customers, and operations.

Leadership is about influence, and sustainable leadership is about strategically using one's power to improve the quality of life for one's family, employees, department, organization, and society. This paper has emphasized that any modern leader in today's digital world will confront societal expectations that he or she will not just act in a prudent economic and correct legal manner, but also that the organization will operate in a socially and environmentally responsible manner by keeping everyone's data safe while respecting the privacy of all stakeholders. The concurrent challenge for the leader in today's digital world is to have a sustainability mindset that goes beyond profits in their operations by considering the organization's impact on society, the planet, and future generations.

## 7. Future Direction

Future researchers on this topic can provide a more specific explanation of the impact of the digital economy on work and social media amid all the AI initiatives to enhance each reader's awareness. More specifically, future researchers can expand on the following questions:

- 1) What are the opportunities and challenges brought about by the digital economy in the age of AI and fears regarding privacy and data security?
- 2) How can managers effectively deal with the problem of AI being used to generate misinformation and fake content?
- 3) How can future studies measure and evaluate the performance of digital responsibility?
- 4) What is the research significance of this topic of cybercrimes in the digital era for individuals, corporations, and society?

## Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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