

Article

Reopening Facilities to Kick Start the Economy

What are the steps required?

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Overview

Malaysians have finally seen the light at the end of the tunnel after more than 500 days in lockdown, partial lockdown, and Movement Control Order (MCO). The government announced that the economy would reopen with simplified but strict Standard Operating Procedures (SOP). Despite the government's assurances concerning safety and health conditions, some people have expressed worries, particularly frontline workers who have been pushed to their limits since the pandemic began. People will move as the economy opens; as our Health Ministry's Director General noted a few months ago, viruses do not move around, but people do.

**"Viruses do not move around,
but people do."**

The hope of seeing the virus disappeared once we reached the herd immunity is no longer the case, since WHO has stated that we won't have the clean break from the virus. Zero Covid 19 cases is highly impossible. The move from pandemic to endemic phase will require certain steps, and strategies. As 'New-Normal' is being the word frequently uttered by the world leaders, society must take heed the changes needed, and in this context, facilities operation team will be the center of this since majority of the day-to-day activities will take place in an enclosed space.

The reopening of the economy meant only one thing, that is restarting the facilities in a new norm, new standard operating procedures, and the most pressing issue here is to mitigate the risk of Covid-19 infections within the indoor facility. It begs the question of how the facilities owners and operators ensure the safety and risk of infections will be minimized, especially when scientist unilaterally agreed that Covid-19 will be endemic and the concerns parents to send their children back to school knowing that children aged 5 to 11 years old, yet to be eligible for vaccine.

Main threat of poor ventilation

One of the most important findings for Covid-19 is how the airborne virus can be transmitted easily in a poorly ventilated room. It is well known facts that majority of the facility is naturally operated in a stale refrigerated air that is recycled over and over within a period a of time. There is now overwhelming evidence that support the theory that indoor airborne transmission is a higher risk and up to 100% of infections rate if the air changes rate is low.

The **Six-Foot Rule** is a social distancing recommendation by the US Centers for Disease Control and Prevention, based on the assumption that the primary vector of pathogen transmission is the large drops ejected from the most vigorous exhalation events, coughing and sneezing. The high-speed visualization of such events reveals that 6 ft corresponds roughly to the maximum range of the largest, millimeter-scale drops. Compliance to the Six-Foot Rule will thus substantially reduce the risk of such large-drop transmission.

Spread of COVID-19 occurs via airborne particles and droplets. People who are infected with COVID can release particles and droplets of respiratory fluids that contain the SARS CoV-2 virus into the air when they exhale (e.g., quiet breathing, speaking, singing, exercise, coughing, sneezing). The droplets or aerosol particles vary across a wide range of sizes – from visible to microscopic. Once infectious droplets and particles are exhaled, they move outward from the person (the source). These droplets carry the virus and transmit infection. Indoors, the very fine droplets and particles will continue to spread through the air in the room or space and can accumulate. (US EPA, 2021).

A proper ventilation is key to reopening the facility. As guided with findings by WHO, CDC and recently announced SOP by Malaysia's Ministry of Health, facility owners and operators should take heed the recommendations. Although the guidelines have yet to be mandatory, few experiments have been proving the theory on good ventilation will reduce the risk of infections in an indoor environment. Guidelines from WHO stated that certain amount of fresh air must be introduced to an enclosed space such as classroom, cinema, and offices.

Steps taken to reduce risk of infections

Improving ventilation – focus on CO2

"Eliminating the risk of indoor infections relates closely to improvement of indoor air quality."

Some of us does not have the luxury to choose from where we should work, thus being indoor will be the ultimate workplace. As infection risk is highly likely happens in indoor setup, a proper ventilation should be introduced to rooms. There has been research conducted that proved a simple measurement of CO2 will be able to determine the risk of infections. The model – developed by researchers at Imperial College London, the University of Cambridge, and the University of Leeds – uses monitored CO2 (carbon dioxide) and occupancy data to predict how many people are likely to be infected by an asymptomatic but infectious colleague.

The theory is straight forward, we release CO2 when we breathe out, so higher levels of CO2 in a room are related to higher occupancy and lower ventilation. High levels of CO2 can therefore provide an important red flag to building managers to identify areas of inadequate

ventilation. Changes could then be made, for example to improve ventilation or change worker attendance patterns to reduce occupancy. The model shows that halving the occupancy of an office could reduce the risk of airborne transmission four-fold. The risk could be even higher in a place where higher intensity of breathing such as gymnasiums or if the workplace where active speaking is involved, such as call centers. In a very poorly ventilated room with many people in it, will of course produce high level of CO2.

Outdoor levels are around 400ppm and indoors a consistent CO2 value less than 800ppm is likely to indicate that a space is well ventilated. An average of 1500ppm CO2 concentration over the occupied period in a space is an indicator of poor ventilation. We should take action to improve ventilation where CO2 readings are consistently higher than 1500ppm.

Mixed mode work condition – WFH & WFO

One of the most effective strategies to avoid infections is to avoid crowded enclosed spaces, that is if you have the option to do it. After more than a year of working from home, and maximizing the efforts via online meetings, Malaysian in general finds mixed reactions in coming back to office. Although working from home entirely is not an option for majority of us.

The lack of high speed and stable connections, distractions from domestic activities, noise from neighbours knocking down their walls to build their 5th bedroom, children running around the house, and lack of clear indication between rest/work seems to bother most of us. Working from home might not be the ideal condition, based on studies made by McKinsey, the finance,

management, professional services, and information sectors have the highest potential for remote work. Meanwhile, agriculture, accommodation and food services, construction, transportation, and warehousing have the potential of productivity loss. Thus, not every sector is suitable to adapt with WFH.

Education is badly affected by the pandemic. Online learning, like a lot of

industries might not be feasible to some of the courses. Even students in school find it stressful learning online, apart from other difficulties such as availability of internet, let alone high-speed connections, gadgets, or computers.

"It is one of the best options, but it's not for everyone."

Preparing the facility team - awareness

One of the key breakthroughs due to the pandemic, apart from the accelerated digital transformation is how the world learned that equitable knowledge system is important. Any organization that wants to empower individuals should use and apply the knowledge equitably.

The facility team should be well trained with information on Covid 19 risks and its modes of infections. By having the fundamental understanding of how the disease spread, a strong adherence of protective behaviour shall develop in the

facility personnel. A more rigorous effort on educating critical factors to the facility such as proper ventilation, threshold of each key parameters such as CO2 concentrations level and compliance to SOP such as mask while being indoors and other SOP.

A re-assessment of knowledge might be required from time to time to ensure the facility team is properly equipped with updates and latest mitigating plans and responding to the changing circumstances.

Other steps

There are straightforward steps that can be taken to reduce the potential for airborne transmission of COVID-19. The layout and design of a building, as well as occupancy and type of heating, ventilation, and air conditioning (HVAC) system, can all impact potential airborne spread of the virus.

Although improvements to ventilation and air cleaning cannot on their own eliminate the risk of airborne transmission of the SARS-CoV-2 virus, EPA recommends increasing ventilation with outdoor air and air filtration as important components of a larger strategy that may include physical distancing, wearing cloth face coverings or masks, surface cleaning, handwashing, and other precautions.

Mandatory mask for indoor

Wearing a mask not only protects oneself, but it also protects others. In Malaysia, wearing a face mask in public or indoors is required, particularly when indoors with persons who do not live in one's family. To ensure that a face mask provides good protection, it should completely cover the nose and mouth and fit snugly against the sides of the eyes.

Hand sanitize station at heavy traffic area

To prevent germs and chemicals on hands, the CDC recommends washing hands with soap and water whenever possible. Hand sanitizer is the greatest alternative if soap and water are not available. Hand sanitizers with more than 60% alcohol have been shown to kill up to 99.9% of bacteria. Hand sanitizer should be placed in strategic locations and high-traffic areas to encourage people to use it. In other words, having hand sanitizer readily available will serve as a reminder to residents of buildings or facilities to sanitize. Hand sanitizer placed correctly will improve cleanliness and create a healthier atmosphere. Some of the strategic locations to place hand sanitizer include entrance and exits, cafe, food court, meeting rooms, workstations, and other heavy traffic area like hallways of shopping mall, and airport terminal.

According to a study conducted by Hobbs et al. (2016), placement of hand sanitizer in the middle of a hospital lobby and entrance, increased its usage by 528%.

Traceability - contact tracing

This is possibly the most contentious strategy of all. There has been a lot of discussion about traceability and privacy issues. Furthermore, governments have been using contact tracing applications since the outbreak began, with variable success. There are many tech options for facilities and workplaces, such as the Bluetooth Low Energy (BLE) dongle, which is utilized for contact tracing without sacrificing privacy. The BLE dongle can be attached to a lanyard, an employee badge, or a visitor badge. It can also be used to check physical separation SOP in addition to contact tracking.

Clear communications to building occupants with simple SOP

"Make everything as simple as possible but not simpler."

Facility team should ensure that communication mechanisms are in place to provide tenants with seamless and clear communication. Sharing with them how and when changes are going to happen will aid better preparation for the occupants. The communication must be channeled directly to the occupants and the messages must be straightforward.

This can be done via website, text message or even hotline number.

"Do not reinvent the wheels."

The government has established a great deal of consistency in terms of SOP, allowing for a better knowledge of risk mitigation and what to do. Facility personnel should avoid creating, re-create or re-invent the SOP - **End**.