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# Business Continuity Planning for Condominium Managing Agents in Sri Lanka: Resilience during Pandemics

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**Abstract**

Business Continuity (BC) of condominiums is being greatly affected by the COVID-19 pandemic. The pandemic is highly contagious, imposing a huge risk on community-based environments in which residents share different common facilities such as lifts, recreational areas, swimming pools, gyms. Besides, the apartments are mostly used as closed units without a solid connection with the environment. Such settings may heavily contribute in spreading any contagious disease, justifying the strict care extremely demanded at residentials. As the caretaker, the Facilities Management (FM) service provider, also known as the Managing Agent (MA) must continue its operations while facing the pandemic with a huge risk. Rather than being reactive towards the emerging struggles, it is more effective to have a proactive approach in combatting a pandemic. Business Continuity Planning (BCP) allows an organisation to be equipped with all mandatory plans and strategies which can be implemented before the pandemic strikes. Hence, this paper proposes a Pandemic BCP model for MAs which can be utilized for the on-going COVID-19 and future pandemics. Data were gathered using literature, expert interviews, site observations and document review. It was observed that none of the organisations had BC plans prepared for a pandemic. However, most experts admitted the importance of BCP in this context. They mentioned that the remote working culture already established in MAs, heavily contributed in adapting to the situation. Further, satisfactory accommodation facilities provided for the on-site staff was witnessed during the site observations. The documents review revealed the comprehensiveness of prompt action taken by MAs to resume operation of the critical functions. The proposed model consists of six stages and the paper discusses the factors to be considered under each stage of the model. MAs can utilize this plan effectively in adapting to the current and future pandemics to ensure solid BC.

*Keywords*: Business continuity planning, pandemics, condominiums, managing agent



## ■1.0 INTRODUCTION

Pandemics are large-scale outbreaks of an infectious disease that can greatly increase morbidity and mortality over a wide geographic area and cause significant economic, social, and political disruption (Madhav et al., 2017). Evidence suggests that the likelihood of pandemics has increased over the past century because of increased global travel and integration, urbanization, changes in land use, and greater exploitation of the natural environment. These trends will likely continue and intensify (Shearer et al., 2020).

Pandemic risk is driven by the combined effects of spark risk (where a pandemic is likely to arise) and spread risk (how likely it is to diffuse broadly through human populations) (Madhav et al., 2017). They are dangerous because no vaccine will be available for a considerable period as developing a vaccine prior to its outbreak is very difficult (Greenwood, 2014). Further, the rate of spread is the most serious concern and it is exponential (European Centre for Disease Prevention and Control, 2020). In the extreme instance, number of patients doubles every 2-5 days overwhelming the healthcare systems.

According to the World Health Organisation (WHO) (2010), a pandemic is declared when a new disease for which people do not have immunity spreads around the world beyond expectations. On average, pandemics occur every 25-40 years, with wide-ranging impacts on human health. A pandemic is likely to spread around the world in a matter of weeks and will affect humans in several waves. It is expected that the first wave will impact 20-30% of the worldwide population (CCOHS, 2020). Consecutive waves may persist over 1 to 2 years for some of the pandemics, states the author. For instance, WHO (2020a) predicts that the COVID 19 will exist with pop up clusters and waves till a vaccination is found. Thus, pandemics can cause massive social, economic and health crises. The past examples for most dangerous are:

(1) The Spanish Flu of 1918-1919: impacted from 100-200 million people, of which over 50 million died (International Facilities Management Association (IFMA), 2006);

(2) Ebola: As of 28 February 2016, there were 11,316 deaths from Ebola during the 2014 epidemic in West Africa including 513 health care worker deaths reported from Guinea, Liberia, and Sierra Leone (Centers for Disease Control and Prevention (CDC), 2019);
(3) SARS - From 1 November 2002 to 31 July 2003, 648 of the 8082 probable cases of SARS in mainland China and Hong Kong died. Worldwide, in just 6 months, there were more than 8000 infected individuals, with over 700 deaths (almost 9% of infected cases) (Qiu et al., 2018) and;
(4) the current COVID-19 - still spreading all over world and as of 21 September 2020, 30,949,804 confirmed cases and 959,116 deaths have been reported (WHO, 2020b).

With the devastating results of pandemics in the history, health care officials and many scientists have brought forward simple measures which can be practiced to minimise the spread of viruses. Few of the basics are, maintaining social distance, being aware that surfaces may be contaminated, hand washing, and respiratory etiquette (Bagchi, 2007). It is also advised to self-isolate if symptoms are observed (Christaki, 2015). Recently WHO and Occupational Safety and Health Administration (OSHA) have introduced various useful resources such as online dashboards containing advice for the public, travel advice, workplace operational guidelines, situation reports and myth busters (United States Department of Labor, 2020; WHO, 2020b).

Condominiums, in such situations, are at high risk due to the concept of shared living and the increased elderly population (Hunt, 2013). In a condominium, shared facilities such as elevators, fire, water, electricity, gas, drainage systems, solid waste disposal, housekeeping are operated by the MA in consultation with the Management Corporation (Prathapasinghe et al., 2018). Further, security of the premises, carpark management, are other essential services of which quality cannot be compromised under any circumstances (IFMA, 2006). Making sure that skilled and experienced human resource is available in adequate numbers during a pandemic situation, where shutdowns, lock downs and sometimes curfew is imposed, is a challenge, states the author. Further pressure will be exerted on this limited human resource when they must take the added responsibility of maintaining hygienic requirements and compliances made compulsory by the government health authorities (OSHA, 2020). Avoiding gatherings, maintaining "social distancing", and self-quarantining of suspected people are some of such rules. Moreover, MA has an additional responsibility of keeping the residents calm without allowing them to panic due to fear, misinformation and anxiety which is very common among old population in this type of a residential culture (The Association of Residential Managing Agents, 2019).

However, to do this, it is important that the MA has a solid plan in hand to make preventive controls against a pandemic and minimise business disruptions as much as possible. A company that involves in preparedness actions only in the FM field will likely continue unprepared for a pandemic or similar significant crisis (IFMA, 2006). Hence, raising awareness of BCP and its applicability is a timely topic under "work from home" concept. Effective BC of the MA in a condominium is essential for the health, safety, security, and wellbeing of its occupants. Hence, this paper is aimed at proposing a BCP model for MAs to manage condominiums during the on-going COVID-19 and future pandemics.

## ■2.0 LITERATURE REVIEW

### 2.1 Business Continuity Management (BCM) and Business Continuity Planning (BCP)

The concepts of BC and Business Continuity Management (BCM) were made known more than 20 years ago in answer to several kinds of business interruptions resulting from operational, organisational and environmental factors (Bajgoric, 2014). Herbane (2010) noted that BCM has progressed in response to the technical and operational risks that threaten an organisation's recovery from hazards and interruptions. Several standards have been devised during the last two decades such as ISO 22301, BS 25999 and BS 25777, to set up frameworks, methodologies, methods, techniques, implementation procedures related to BCM (Bajgoric, 2014).

Various authors have interpreted the concept of BCM in different perspectives. Speight (2011) defined BCM as "a management process that identifies potential factors that threaten an organisation and provides a framework for building resilience and the capability for an effective response" (p. 529). In the view of Wiggins (2010), BCM can be defined as "the ongoing process of ensuring the continual operation of critical business processes through the evaluation of risk and resilience and the implementation of mitigation measures" (p. 302). According to the standard set by the International Organization for Standardization (as cited in Bajgoric, 2014), BCM is defined as "a holistic management process that identifies potential threats to an organisation and the impacts to business operations those threats, if realized, might cause, and which provides a framework for building organisational resilience with the capability of an effective response that safeguards the interests of its key stakeholders, reputation, brand and value-creating activities" (p. 160).

BCP is a crucial element of BCM and is considered a fundamental step towards minimising the negative impacts of business interruptions caused by internal and external hazardous events (Asgary & Naini, 2011). There is clear indication that a company without a BC plan has a low probability of survival (Cerullo & Cerullo, 2004). However, even after the 9/11 terrorist attacks in the United States, only 53% of the firms surveyed in 2002 by Ernst & Young had a BC plan. Further, based on an analysis of data reported in certain recognised surveys, many of the BC plans in place are seriously deficient and outdated, as they do not concentrate on many of today's major risks of business systems interruption. Author further states that there is no single plan suggested for business continuity; instead, every organisation needs to build a detailed BC plan based on its unique context. While total protection from all threats and risks is not possible, successful businesses will have robust and well-rehearsed plans for BC (Wiggins, 2010). The author further emphasises that organisations require BC plans to respond professionally to any incident that impacts the business. It is critical that the organisation's corporate reputation is secured and customers, staff, shareholders and key stakeholders continue that confidence in the organisation.

Previous research unfolds the stages of BCP in various forms which are slightly different from each other. Cerullo and Cerullo (2004) provided guidelines for developing and improving a firm's BC plan which consist of three components: a business impact analysis (BIA), a Disaster Contingency Recovery Plan (DCRP), and a training and testing component. Tammineedi (2010) categorised the key BCP tasks into eight phases: (1) site risk assessment, (2) BIA, (3) business process risk assessment, (4) BC plan, (5) vendor agreements, (6) awareness and training, (7) testing and exercising, and (8) review and maintenance. According to Tammineedi (2010), the standard BS 25999-2 has organised BCP into the following sections: (1) planning BC, (2) implementing and operating the BC plan, (3) monitoring and reviewing the BC plan and (4) maintaining and improving the BCP. Wiggins (2010) interpretation BCP stages consist of (1) strategy, (2) impact analysis, (3) Risk Assessment (RA), (4) plan, and (5) communication. The author also includes concept of 'audit' in to the BCP process. Pitt and Goyal (2004) have presented a slightly different flow of BCP stages such as project initiation, RA/BIA, design and development of the BC Plan, creation of the BC Plan, testing and exercising and maintenance and updating. BCM Systems Standard (ISO, 2019) unfolds a comprehensive guide for businesses to resilience. This guide consists of six steps including strategy and policy, BIA, RA, solutions and procedures, exercises and training, continual improvement.

Several authors have investigated the role of FM in BCP. The findings are supported by the general views on BCP. For example, Wiggins (2010) establishes five basic principles FMs can follow when establishing a BC ethos: (1) know your business, (2) know your location, (3) have a plan, (4) focus on communication and (4) practice. Similarly, IFMA (2006) has introduced a six step FM specific BCP guideline which has adopted the Plan, Do, Check and Act (PDCA) cycle. Goh (2009) mentions a facility manager as a key responsibility holder and decision maker in a crisis management team.

However, studies have shown that there is more to the common understanding of BCP when 'pandemics' are considered.

### 2.2 Business Continuity Planning (BCP) for Pandemics

Wiggins (2010) identifies pandemics as one of the most devastating natural disasters to both business and human life. According to Goh (2009), numerous possible outbreaks, and few more probable changes in responses to them, makes the BCP process for pandemics one of the most complicated challenges faced by facilities managers. He provides reasons as to why pandemic BCP differs from traditional BCP, which are mainly because organisations:

- Cannot afford to delay the operations for the next few months while the pandemic spreads fast, and the impact is substantial and immediate
- Cannot expect to follow a contemporary business continuity event timeline
- Need to respond as quickly as possible
- Need to implement BC plans instantly
- Should expect some deaths and high absenteeism of staff
- Need to consider where the staff are living
- Must assume closure of borders by the government; as a result, critical orgnisational functions highly dependent on overseas supplies will potentially be disturbed
- Must realise that the extent of the damage cannot be clearly stated as it spans beyond the organisations and country's boundaries

The World Health Organisation (WHO) has identified typical stages of a pandemic, to which Goh (2009) has mapped the steps of pandemic BC plan execution (see Figure 1).

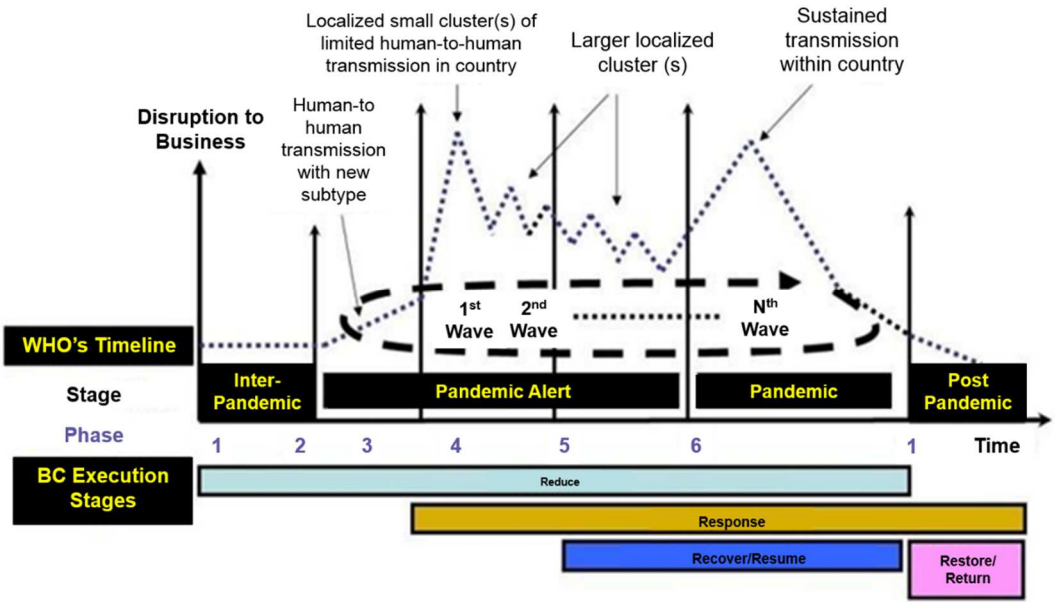


**Figure 1** BC plan execution stages
(adopted from Goh, 2009)

As per Figure 1, the execution of a pandemic BC plan includes four stages: (1) Reduce, (2) Respond, (3) Recover/ Resume and (4) Restore/ Return. Hence, a pandemic specific BC plan should address:

- Preventive measures to minimise contamination (pandemic flu prevention)
- Immediate responses to a disaster (pandemic flu emergency response)
- Subsequent business recovery and resumption activities
- The return of business to normalcy

### 2.3 Conceptual Model for BCP for Pandemics

After considering the several BCP methodologies and models available (Cerullo & Cerullo, 2004; Goh, 2009; ISO, 2019; Pitt & Goyal, 2004; Tammineedi, 2010; Wiggins, 2010), a six-step pandemic specific BCP model was devised as illustrated in Figure 2.

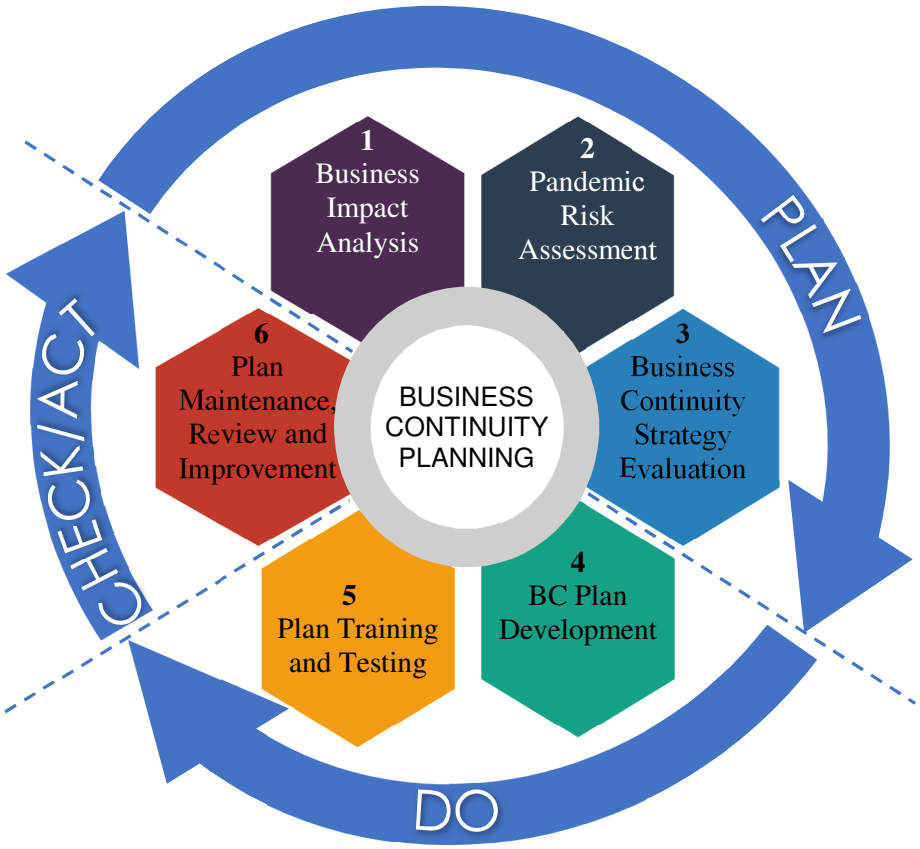


**Figure 2** BCP process for pandemics

#### 2.2.1 Step 1: Business Impact Analysis (BIA)

BIA is the foundation of the whole process of BCP (Krahulec & Jurenka, 2015). The BIA detects and prioritizes critical functions that, if interrupted, would most drastically impact a Facility Manager's capability to deliver high-priority facilities (IFMA, 2006). According to the author, certain key areas are considered in this analysis which are, vital records, primary and alternate locations, internal resource dependencies, external resource dependencies, internal and external customers/stakeholders, and recovery time objectives. The main aim of BIA is collecting and analyzing necessary information to organise and produce a report to top managers for preparing a BC plan (Sikdar, 2011). The outcomes of BIA are a list of prioritized important services based upon the ranking of organisation's services (Torabi et al., 2014). According to the author, a right BIA process should consider goals of the organisation, and should not have any contradiction with them.

#### 2.2.2 Step 2: Risk Assessment (RA)

The most significant dangers at sites where critical functions are operated are highlighted by the RA process, facilitating the identification of risk controls (Bajgoric, 2014). According to the author, threats should be identified in terms of employees, operations, and assets. Each threat has to be then assigned with a likelihood and severity using which the threats can be prioritised. Risk controls and mitigation activities are then identified for the threats on priority basis. Conclusions from the impact analysis together with risk assessment on disruption of

critical activities of an organisation are the basis for BCM strategies that recognise various alternatives and ways to restore critical operations of the organisation at the desired time in case of disruption (Krahulec & Jurenka, 2015).

### 2.2.3 Step 3: Business Continuity Strategy Evaluation

In accordance with BIA and RA results, continuity options are appraised and chosen to optimize business function recoverability (Brown, 2016). As per the author, using suitable strategies, critical FM functions can be continued. This stage is focused on identification of such strategies. However, the feasibility of such strategies should be assessed based on factors such as cost, reliance on external resources, ability to meet recovery time objectives, degree to which the strategies can be applied, simplicity of execution and acceptable degradation of normal productivity levels (Pitt & Goyal, 2004). It is advised to find general strategies for resuming FM work functions, IT failures, communication failures, critical vendor and supplier management, and vital records recovery (Cerullo & Cerullo, 2004).

### 2.2.4 Step 4: Business Continuity Plan Development

This step involves the documentation of the standard BC plan. In general, it should contain immediate actions, business resumption procedures, internal communications, external communications, equipment and resources and vital records (IFMA, 2006). Many organisations have developed a BC plan which highlights procedures to enact when a disaster occurs. It includes identification of primary and other team members and their particular duties, including top management roles; notification procedures and different meeting site locations; work-around processes to maintain the operation while affected resources are being brought back to a "business as usual" condition; a contact list of all staff members and their designated functions; identification of all internal and external suppliers and their primary and alternate contacts; and report templates (expenses, activities, etc.) (Tammineedi, 2010).

### 2.2.5 Step 5: Business Continuity Plan Training and Testing

The cruciality of regular testing and updating the BCM plan is strongly emphasized in Cerullo and Cerullo (2004)'s study. According to his findings, training and testing include developing a test methodology, parallel testing and training of the disaster recovery team, followed by BC Plan revision and parallel testing and training again. Regular training and testing are required to ensure that important individuals can successfully fulfil plans (Brown, 2016). As per the author's findings training and testing of a business continuity plan provides three outcomes: (1) verification that a plan's information is complete, useful, and accurate, (2) familiarisation of FM personnel with the plan, and, (3) identify opportunities for improvement.

### 2.2.6 Step 6: Business Continuity Plan Review and Improvement

Periodic plan reviews and updates are required to ensure that plans contain current and accurate information (Bajgoric, 2014). Thus, defining frequencies for periodic review is essential. However, there is no standard for periodic updates as it may depend on the context of the business. According to IFMA (2006), a pandemic specific BC Plan in FM should be regularly revised as follows: business impact analysis and risk assessment - every 3 years or following substantive changes to business operations, organisation, or sites; business continuity plan review - semi-annually; business continuity strategy review - after each business impact analyses and/or risk assessment; business continuity plan testing and training – annually; event follow-up and review - within 3 days of events involving the implementation of business continuity plans; plan updates - following plan reviews, plan tests, event reviews, or known changes to plan contents.

## ■3.0 METHODOLOGY

This study was conducted using the qualitative research approach because it supports naturalism in research. Qualitative approach allows to study a real scenario while it unfolds naturally. In a non-manipulative, non-controlling way, the researcher is given the opportunity to grab whatever emerges, which is the most effective method to achieve the aim of this study.

Initially a literature survey was done on the history of pandemics, previous views and findings about BCP and the role BCP plays during pandemics. Personal interviews with experts, document review, site observations and engagement are the research techniques used in this study to facilitate critical understanding of how the crisis was handled. Five leading condominium MAs who are operating in Colombo were selected for primary data collection. Interviews were conducted with a representative of the top management of each organisation having expert knowledge in the field of FM in condominiums. The details are given in Table 1.

**Table 1** Details of MAs and respective interviewees

| MA | Description of the MA | Respondent | Designation of Respondent | Experience |
|---|---|---|---|---|
| MA 1 | A local company established in 1996. It currently manages 22 large condominiums. It has a team of approximately 200 professionals with expertise in FM and building services engineering. | A | Senior Manager – Operations and Business Development | 18 years |

| | | | | |
|---|---|---|---|---|
| MA 2 | A local real estate service provider involved in condominium management headed by one of Sri Lanka's renowned experts. In Sri Lanka, it manages over 5 large condominiums with a team of over 50. | B | Chief Executive Officer | 23 years |
| MA 3 | A local company in practice for the past 30 years. It currently manages airports, hotels, commercial buildings, hospitals and 10 large condominiums. It operates with a professional staff of about 150. | C | Condominium Manager | 8 years |
| | | D | Condominium Manager | 9 years |
| MA 4 | A subsidiary of an international construction company established in 1986. It currently develops and manages large condominiums with 6 completed and 3 ongoing projects. Their staff comprises of about 100 professionals. | E | Condominium Manager | 16 years |
| MA 5 | An international real estate organisation originated in China. It mainly involves in hotel, condominium and retail industry with a labour force of about 500 deployed in Sri Lanka. | F | Condominium Manager | 10 years |

Documents such as existing contingency plans, standard operating procedures, COVID-19 prevention guidelines, notices and incident reports were used during the document review. These documents were useful in gaining insights about how well the organisation has prepared for emergencies, what preventive and safety measures it has taken, what guidelines have been provided for staff members, special incidents which took place within the condominium during this period and how they were tackled. Two condominiums were physically observed to obtain an idea on what sort of measures are taken on site and how well the staff members and residents abide by those measures.

The reliability of the interview guideline was verified by an academic expert (E1) from a leading university in Sri Lanka. In order to verify the validity and the reliability of the model, it was presented to a subject matter expert (E2). E2 is working in a leading FM firm in Sri Lanka, with over 20 years' experience in the residential sector. The findings of the model were up to his satisfaction and thereby resulting in validation. However, he stressed that the paper should advise the readers to adopt the points in the model to suit the context of the building in question.

A critical comparison between theory and existing practices were made. Further, strategies and suggestions were obtained from the experts on how to implement BCP in condominiums during current and future pandemics. Finally, a comprehensive BCP model was proposed using the findings.

## ■4.0 RESEARCH FINDINGS AND DISCUSSION

### 4.1 Situational Analysis of MAs in Sri Lanka during COVID-19

By late January 2020, the novel coronavirus, the source factor of COVID-19, reached Sri Lanka. After a month from the first patient's recovery, day by day the number of active cases rose, and the public started to panic. While actions had been taken by the Sri Lankan government to close schools, universities, tuition classes, and public gatherings, employers had been left concerned about the health and safety of their employees. Finally, a nationwide curfew was imposed by the government when the number of reported patients went over 50. This situation created excessive pressure on all Condominium Managers (CMs) as residents started to panic and business continuity was at risk.

However, with the responses obtained, it was evident that BCP had not been a major concern of most MAs. All respondents admitted that their organisations did not have BC plans for pandemics. Respondent A emphasized, "*We have contingency plans for fire, theft, floods, lift rescue, power shutdown, gas leak, and security threats. But no one had experience on pandemics*". Respondent F added, "*Pandemics are unusual crises of which the consequences are hard to anticipate. Hence, even when pandemic alerts were sent, the organisation chose to tackle the emerging obstacles rather than spending time on planning*". Therefore, it is evident that the practice in general is to find solutions once the situation becomes difficult, which is reactive. As a result, Respondent A and Respondent E mentioned that they prepared BC plans to combat the future threats of the pandemic. However, these plans have not followed the comprehensive process of BCP, yet, included strategies for Goh (2009)'s four pandemic BC execution stages: Reduce, Respond, Recover/ Resume and Restore/ Return.

In this study, respondents were questioned about the strategies they would suggest for the proposed pandemic-specific BCP model based on their experience in managing condominiums during COVID-19.

### 4.2 Step 1: Business Impact Analysis (BIA)

The key outcome of this step should be critical FM functions and resources required. This should be done with the involvement of the top management. Further it should be kept as simple as possible to facilitate quick transmission to emergency mode. Respondent B highlighted, "*All FM functions in a condominium are critical as MAs are dealing with a very sensitive group of customers*". However, all other respondents stated that repairs, renovations, house moving activities and routine maintenance of systems not impacting life safety should be restricted for the time being.

According to the responses, there are nine critical functions to be continued by a MA during pandemics: (1) security, (2) cleaning and janitorial, (3) continuity of basic utilities such as electricity, water, gas and telecommunication, (4) operation and maintenance of critical building systems, (5) waste management (6) mail services (7) utility billing (8) payment of salaries and most importantly, (9) resuming normal operations once the crisis is over. However, the list may vary depending on the context of the facility.

The MA should then identify the vital records needed to continue the critical functions, of which duplicate copies should be made. Vital records of a condominium may be identified in twelve categories such as: (1) condominium plan, (2) operation and maintenance manuals, (3) contract documents, (4) insurance, (5) as-built drawings, (6) asset register, (7) procurement records, (8) CCTV recordings, (9) certificates and approvals obtained, (10) Common area keys and extra keys, (11) Attendance registers, (12) Access control system data (13) payment receipts. If all critical functions cannot be continued on site, alternate locations should be planned (e.g. work from home). The selected locations should cause the least disruptions to the functions. Respondent C emphasised "*We faced immense difficulties in retrieving some of our procurement details since these systems were not cloud-based in our organisation. Hence, the Accountant's desktop computer had to be taken from the condominium office to where she was working remotely*".

Next, planning focuses on the internal resources required. For example, emailing and calling facilities are required for almost all critical functions. Some staff members may need laptops and internet facilities to continue work remotely. Respondent A stated, "*Our organisation already had facilities to establish remote working. Since our employees have to travel from one condominium to another, they are provided with laptops and dongles. This came in handy when the curfew was imposed*". Special software may be required for accounting, utility billing. Further, cash needs of on-site staff should be considered. Expressing his views, Respondent D added, "*Planning for cash needs for onsite staff is crucial. However, working in a residential context, our customers took care of the onsite staff most of the time. Their meals were taken care of and accommodation was not a problem. This is one benefit of managing condominiums*".

It is evident that a fair amount of external resources is required for critical functions. Few are: (1) sufficient supplies for maintenance of systems, (2) cleaning agents, (3) sanitizing liquid, (4) meals and accommodation for on-site staff. Identifying both internal and external customers/stakeholders should be done extremely carefully to make sure none is missed. Few of them are:

(1) The Management Corporation including all residents
(2) All related government authorities, including the Epidemiology Unit of Ministry of Health, Police and Fire brigade
(3) All external service providers including Security and Janitorial Service Providers, Municipal Councils for waste management, and other critical service providers or vendors
(4) MA's staff, specially the on-site staff, staff working remotely and top management

Plans should consider establishing proper communication between the MA's representative at each facility and the identified stakeholders. Ultimately, Recovery Time Objectives (RTO) should be set. When a crisis occurs, the routine activities are paused for a while in order to prepare for the emergency during which only the critical functions are expected to be carried out. Hence, timeframes should be made for shifting from the pause to routine functions. It should be considered that all the staff are not available at site and even the staff available may not work in their full capacity due to the uncertain situation.

### 4.3 Step 2: Risk Assessment (RA)

RA should be specific to each condominium site. Under the guidance of the top management, the CM should initiate the RA. It should take into consideration the interests of all stakeholders including residents and MA's staff. When the respondents were questioned about which stakeholders are more at risk, security officers were emphasised because they interfere with all people during the initial temperature check. Further, Respondent B added, "*In the condominium community there are many doctors and businessmen whose jobs could not be interrupted due to risk of exposure to the virus. Instead, their families had to be monitored with care to avoid infection*". As per the responses obtained for exposure to risk of COVID-19, people at condominiums can be categorised into different levels (see Figure 3).

Low Exposure Risk category contains people with very low possibility of being in close contact with COVID-19 confirmed or suspected cases. Medium Exposure Risk category includes people who are frequently in contact with confirmed or suspected COVID-19 cases. High Exposure Risk category is for individuals with a high potential for exposure to known or suspected COVID-19 cases. However, the importance is in assessing the risks imposed on the FM function due to COVID-19. Such an assessment should take into consideration, the risk factors, risk level of each factor and risk controls. The risk level of risk factors can be established by assessing the severity and likelihood of each factor.

When assessing severity, the critical functions should be categorised in to three groups such as high, medium and low priority. The criteria which can be used to assess the severity is given in three categories:

- Low: Risk factor affects low priority critical functions only.
- Medium: Risk factor affects low and medium priority functions only
- High: Risk factor affects all three priority categories

Accordingly, the risk level of the risk factors can be analysed and prioritised. Respondent F claimed "*Risk assessment in a condominium environment should be done very carefully because sometimes the clients can be very tricky and we cannot afford to make any mistakes*". The risks mentioned by the respondents have been categorised in to six categories. Given in Table 2 are risk factors which are common to condominiums during COVID-19.


**Figure 3** Risk pyramid

**Table 2** Risk factors

| Risk Category | Risk Factor | Risk Controls |
|---|---|---|
| Staff-related | • Employees reluctant to report to work<br>• Disruptions in public transport<br>• Employee workstation arrangement may increase the virus spread<br>• Shared equipment may expose uninfected employees to the virus<br>• Presence of infected staff members<br>• Presence of employees with other chronic diseases<br>• Employees refusing to return after the normal procedure is resumed. | • Essential staff should be identified and kept informed.<br>• Allocate a vehicle with curfew pass to each facility with an emergency driver.<br>• Staff members can be advised to minimise social contact (e.g. only one employee could use the lunch table at once).<br>• Posters can be prepared for the staff. They should be educated on proper hygiene practices (discouraging handshakes or other customary physical conduct, cough and sneeze covering, hand washing, face touching and handling of potentially infectious material)<br>• Remote working facilities should be available.<br>• Staff within the premises, at a given moment, should have sufficient facilities to remain and not leave the site for at least 5 days in case of an emergency.<br>• Consider occupying unused space within the facility for office space to increase distance between workstations.<br>• Assign shared equipment related jobs to certain individuals to minimise contact. Encourage wiping the touched areas shared equipment after use.<br>• If any employee has been exposed to an infected person, maximum and strict precautions should be imposed on them.<br>• Should avoid assigning staff with chronic diseases to be involved in work during crisis situations.<br>• Educate employees with the latest accurate updates from site as well as the country |

| | | |
|---|---|---|
| Resident-related | • Reluctant to practice social distancing<br>• Panicked Residents<br>• Elevator usage may induce virus spread<br>• Common areas may contain the virus<br>• Presence of infected residents<br>• Presence of residents with other chronic diseases | • MA can take actions to prepare awareness posters and leaflets for the residents. These may include the importance of social distancing, safe practices when using the elevators, restricted common facilities, instructions for self-quarantine, and most importantly, the initiatives taken by the MA to contain the spread.<br>• Deep cleaning of the common area in the facility<br>• Should be requested to refrain from holding gatherings and private parties<br>• Placing strict and immediate medical procedures to handle infected patients and keeping residents and staff informed of this procedure.<br>• Advising residents with chronic diseases to minimise leaving their home during the period of COVID-19. |
| Deliveries and visitor related | • Deliveries and visitors may come with the virus unknowingly<br>• They may not be aware of the hygiene practices at site | • An in-depth screening process should be implemented at the entrance. Medical infrared thermometers can be used.<br>• The CM can request the residents not to invite visitors unless the visit is crucial. The same restrictions have to be imposed on deliveries, and vendors.<br>• Visitors should be advised to use hand sanitizers fixed at the lobbies before proceeding to other areas in the building. |
| Inventory-related | • Shortage of necessary parts for building and equipment maintenance<br>• Shortage of cleaning agents<br>• Shortage of PPEs for COVID-19 | • A detailed monthly plan of supplies needed for maintenance, cleaning should be prepared and pre-stocked in excess if a lockdown is anticipated.<br>• Identify suppliers of COVID-19 PPEs during emergencies/lockdowns |
| Service-provider related | • Overwhelming of emergency services such as Police and Medical services | • Prepare for first aid and self-quarantine within the facility.<br>• Requesting emergency services only for the critical patients |
| | • Telecommunication failure | • Have alternate network technologies for communication |
| | • Power failure | • Ensure that the primary and standby generators are functioning.<br>• Fuel and oil should be stocked in excess |
| | • Delays in mails | • Using emails of the scanned copy |
| | • Delays in waste collection | • Prepare the condominium garbage rooms with at least 2 weeks of storage capacity. |
| | • Losing contact of service providers | • Identify alternate service providers serving during emergencies |
| Internal system related | • IT system failure | • Maintain backups<br>• Train staff for manual overrides |
| | • Communication system failure | • Have alternate network technologies for communication |
| | • Breakdowns of critical building systems | • Prepare for in-house maintenance if it is within the scope.<br>• Service providers should be informed that they should have curfew passes to attend to major maintenance requirements within the site. |

### 4.4 Step 3: Business Continuity Strategy Identification

Numerous strategies should be taken by the organisations to ensure its BC during the pandemics. However, strategies should be chosen while giving due consideration to the feasibility factors. Commenting on this topic, Respondent C stated "*We tried our best to establish condominium management as an essential service, stating it's criticality, in order to allow staff to access the sites with less hassle and ease travelling. However, it was not accepted by the relevant authorities. Perhaps, in the future if we are able to get it listed, we may have to face less obstacles during a pandemic situation*". Respondent E suggested, "*Different strategies to be taken during a pandemic should be categorised as per the pandemic timeline because there is a high probability of repetitive waves*". Therefore, in this paper, the identified strategies have been divided into long-, medium- and short-term strategies which can be used during a repetition of a pandemic or a similar occurrence.

#### 4.4.1 Long Term Strategies

- **Condominium Administration**

According to Respondent A, "*It is important to agree with residents, the service levels to be provided during such emergencies and how to deal with the welfare of staff who are at site*". As advised by other respondents, a detailed action plan should be developed on the strategies to be adopted by MA in such emergencies. This should cover but not limited to the following: daily work routine and strategy, role definition for staff both managerial and executive staff, role definition of technical staff (duty roster, emergency response teams, staff travel and overcoming travel restrictions), procedure for obtaining curfew passes for free movement and travel of executive and non-executive staff (identify a single point of contact to deal with bottlenecks), transportation strategy for all staff, strategy for dealing with sub-contractors (how many staff to be retained, shift changeover, logistics in terms of food, beverage and accommodation for staff), health and safety precautions

to be followed, site monitoring and troubleshooting, independent audit of service levels provided to clients as per the strategy outlined and corrective action, formal process of client feedback, staff and staff family welfare (deal with staff falling ill due to the medical situation), safety equipment/gear to be provided to staff depending on the type of emergency (should include procurement and distribution among staff).

CM should identify the minimum cadre to be deployed at each site with the consultation of the top management. Respondent D highlighted that, "*It is highly important that the top management is involved in allocating resources as they have a better idea about the overall picture of the situation and the organisation*". For a typical condominium, a plumber, an electrician, adequate security staff and janitorial staff should be accommodated on a site. However, this is site specific and should be assessed carefully.

Service provider contracts should be included with provisions pertaining to minimum service standards and staff to be deployed during emergencies and lock downs.

- **Security**

Regular validation of functionality of the site security systems should be carried out. Special attention should be given to the site's access control system. Further, the security service provider should be informed to prepare staff for a special screening procedure to be carried out whenever required.

- **Operation and Maintenance of Critical Building Systems**

The emergency standby generator should be regularly checked for functionality, fuel levels and load capacity. All other critical building systems should also undergo routine maintenance to minimise unexpected failures. Further, parts and material required for essential operation and maintenance should be re-stocked to cater the requirement during the crisis.

- **Information Technology**

All necessary IT appliances need to be provided to staff to facilitate remote access and the IT systems at the condominium should continue. To use in case of a failure, all IT systems should have a back-up at alternate locations. It is suggested that data, systems and other IT applications used at one facility should have a backup at head office and another facility managed by the MA. Manual overrides should be available for all automated systems and staff should be aware to do basic functions without the aid of monitoring systems and IT back-up.

- **Payroll and Finance**

Immediate reforms should be done for existing policies to complete salary payments during unusual staffing conditions defined above. Further, new policies should be formed to authorize emergency expenditure with mandatory restrictions and cost tracking.

- **Vital records recovery**

Recovery of lost vital records is critical during a crisis. Hence it is suggested that a duplicate of vital records is stored off-site, for example, at the head office. Further, such records can be scanned and stored digitally.

### 4.4.2 Medium Term Strategies

- **Cleaning and Janitorial**

Cleaning and janitorial service provider should be requested to carry out deep cleaning of all frequently touched surfaces within the common area including handrails, lift control buttons, workstations, countertops, and doorknobs. Janitors are to be advised to implement a special waste management procedure including double bagging, 72-hour storage, and use a separate procedure to handle infected waste during the period of the outbreak and the PM should regularly monitor whether the procedures are adhered to. However, Respondent B stressed that "*Only the janitors whose whereabouts are clearly known should be deployed, because there is a risk of them coming from infected clusters*".

- **Communication**

Residents are to be kept updated regularly and formally of the development of the emergency, taking into consideration information provided by the relevant local and international authorities. This should also include seriousness of the situation at hand (e.g. public transportation disruptions, quarantine requests), precautions to be followed, service levels expected by residents and what role MA would play during the period. A MA's help line should be set up for any client to call and request for assistance, seek information or provide feedback. All internal staff should be similarly regularly apprised of the development of the emergency so that they would be aware and could obtain authenticated information from a single source. They could also use this information when communicating with residents so that there is no disconnect between the information MA's corporate office would be formally communicating with the residents and what the inhouse staff would be saying. Staff should be advised of the MA's response strategy during the emergency. A separate communication hierarchy should be established to follow if an infected person or a suspected case is found within the premises. Software such as 'Zoom' or 'Microsoft Teams', 'WhatsApp' are recommended for important group discussions. For example, Respondent F mentioned that "*We already had WhatsApp groups for communication among the internal staff. Further, with the emergence of platforms such as 'Zoom', it was made easier. For communication with clients, we prepared new WhatsApp groups, which became a very good initiative as residents became very active and started helping each other to find groceries and other essential needs via this communication link. It also kept them engaged during the lockdown*".

In case of a communication failure in the usual systems, such as mobile phones, fixed line phone, internet, a very high frequency (VHF) radio communication system should be available with an approved frequency bandwidth. System should comprise of base unit in the central location and all key people should have walkie-talkies.

- **Critical Vendor and Supplier Strategies**

Vendors, suppliers, and contractors must be contacted by the PM about the changes in business functions, support required and communication protocols. They are also to be informed about the forecasted potential delays or disruptions in the payments, which had been mutually agreed to by all vendors and suppliers.

Further, shortages in stocks have to be estimated prior to curfew. As a result, excess stock of necessary supplies must be ordered and received. Municipal councils are to be kindly requested to handle waste regularly.

According to Respondent E, "*Having strong and healthy relationships with suppliers, service providers and other third-party organisations are very important in such pandemic situations. Then they treat us in a sincerer manner than normal customers. Normal customers do not get 5 bottles of sanitizing liquid within 2 hours in the midst of curfew. Hence, third party relationships should be given very high priority*".

- **Resuming Normal Operations**

The transition to normal operation should be carefully decided. This should be done according to a timeline. Distractions from the crisis should not cause reckless rushing to resume normal operations. Staffing levels should be adjusted, allowed to the premises in batches (to promote social distancing) and it is recommended to promote high efficiency, motivation and better productivity catch up the back log. Normal communication procedures should be established both internally and externally. Circulars are to be communicated on the hygiene procedures taken before entering the premises, during work and when leaving the premises.

### 4.4.3 Short Term Strategies

- **Working from home**

Staff contributing to critical functions remotely are to be advised to work from home and deal with client enquires via email and dedicated mobile phone lines. They should be given the remote accessibility to data, and other electronic records. According to MA, working from home will never be a new thing from Mas as they are already familiar with the remote working concept.

- **Mail Services**

External parties who are regularly communicating through postal mail should be informed to scan and email the same. If mail is received at site, they should be disinfected before taking into the building.

- **Voluntary Strategies**

During curfew or lockdown, the PM may organise food deliveries and medical supplies to the building entrance. A team of doctors residing in the condominium can be formed and prepared to initiate the immediate actions in case of a medical emergency. A vacant area can be used for medical treatment and the team of doctors can perform first aid in case of an emergency. This can be suggested by the MA and implemented as per the discretion of the Management Council. The MA can also discuss with several banks and install mobile Automated Teller Machines (ATMs) at the condominiums. The staff residing and working at site can be frequently contacted by the Human Resources department and motivated to encourage them. They are to be appreciated for the service they are providing amidst the exposure to the risk. It is also suggested that the CM is in touch with the vulnerable or elderly individuals residing in the condominium. As they may be panicked with the seriousness of the emergency, such acts may be cherished by the residents. Another instance highlighted by Respondent A was condominiums being the official residence of certain diplomats. He emphasised, "*We had to meet with the Ministry of Foreign Affairs to ensure that required safety is maintained at our premises for the diplomat to reside in. New guidelines and awareness posters were prepared to stricken the health and safety measures taken*".

## 4.5 Step 4: Business Continuity Plan Development

When documenting the Business Continuity Plan, it should be organised in seven main sections: (1) Preparedness for contingency, (2) Immediate Actions, (3) Business Resumption Procedures, (4) Internal Communication, (5) External Communication, (6) Vital Records, (7) Critical Systems/Applications and Appendices (if required).

## 4.6 Step 5: Business Continuity Plan Training and Testing

A combined approach of training and testing is the most suitable for pandemics such as COVID-19. It should be something similar to a fire drill, where a pandemic situation is simulated, and staff needs to take all immediate actions and other precautions as described in the plan. A procedure is to be documented clearly stating how the simulation and the related actions are to be taken, as a guide to the PM. This can be for regular training and testing of the business continuity plan. Respondent E reflected, "*If we had a plan in hand, this would have been the best opportunity for us to test it and make necessary improvements*".

### 4.7 Step 6: Business Continuity Plan Review and Improvement

The recommendations made by the experts for plan review and improvement slightly differ from literature findings. According to their responses, provisions should be made in the newly documented BC plan for review once in every two years. It is suggested so because, the average frequency of a pandemic is 2 years. Hence, every 2 years, the plan has to be updated to suit the latest context. This should include, BIA, Business Continuity Strategy development, and making the necessary changes to the critical functions and the actions to be taken. However, it is suggested that risk assessment is carried out at least once a year because the operating context of the facility is very dynamic, and it may be exposed to new risks regularly. Further, it is recommended that testing and training should be carried out bi-annually to ensure that employees are always in shape to face a pandemic such as COVID-19.

## ■5.0 PROPOSED BCP MODEL FOR CONDOMINIUMS DURING PANDEMICS

Using the findings of this study, the BCP model given in Figure 4 was devised to suit condominiums during pandemic situations.

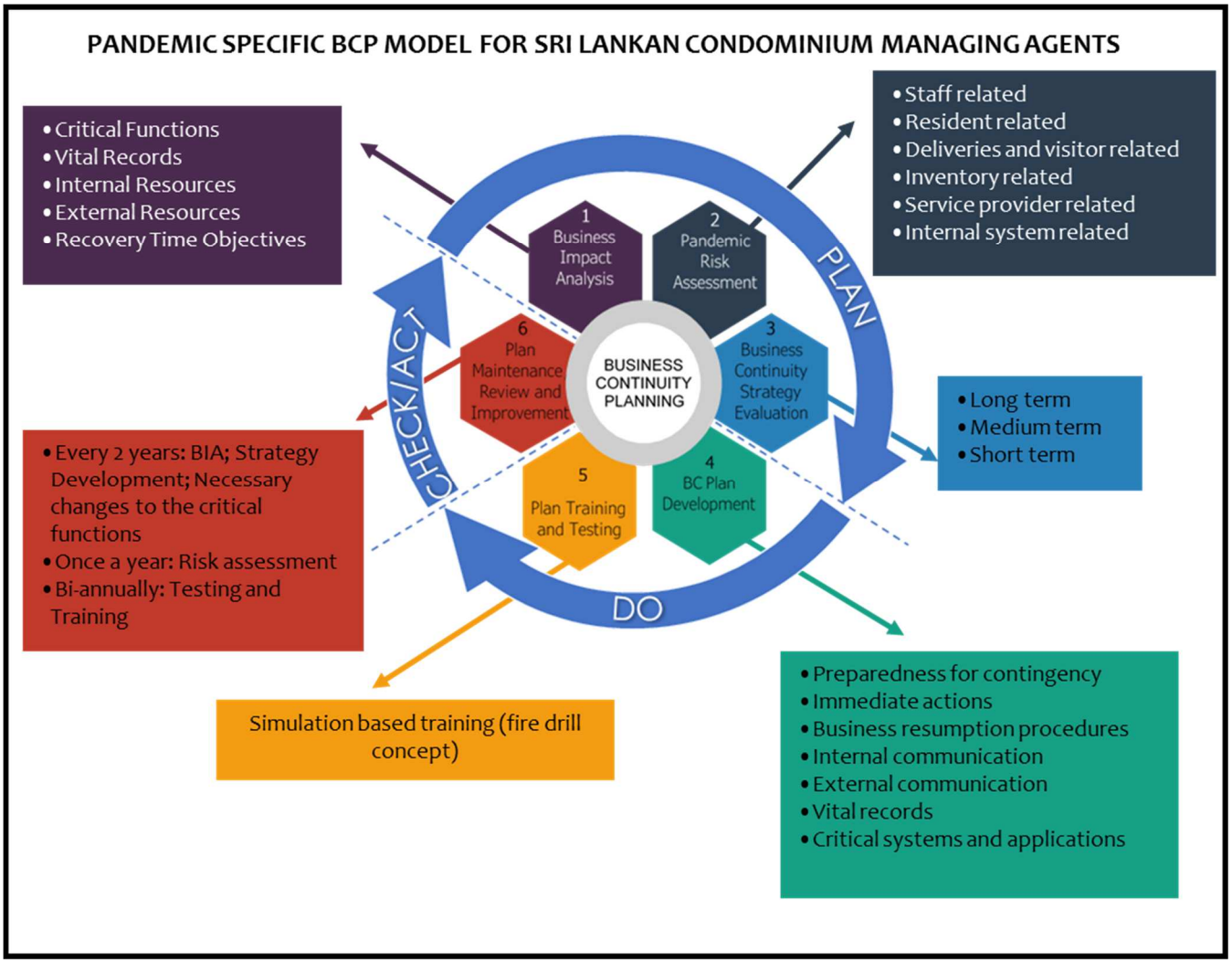


**Figure 4** Proposed pandemic specific BCP model

As per Figure 4, the proposed model consists of six (6) stages which follow the PDCA cycle. The first layer portrays the six stages of BCP and the second layer depicts the relevant step of PDCA each BCP stage belongs to. The outer most layer comprises of sub items that require consideration under each BCP stage. Under BIA, (1) critical functions, (2) vital records, (3) internal resources, (4) external resources and (5) recovery time objectives should be considered. Pandemic risk assessment should take into account risks related to (1) staff, (2) residents, (3) deliveries and visitors, (4) inventory, (5) service providers and (6) internal systems. Evaluating strategies should focus on long, medium- and short-term challenges. Next, the BC plan should be developed with (1) preparedness for contingency, (2) immediate actions, (3) business resumption procedures, (4) internal communication, (5) external communication, (6) vital records, (7) critical system and applications. During plan training and testing, the main aim should be to simulate pandemic scenarios and train staff to adopt to the situation. Further,

simulations are ideal to test the viability of the BC plan. Finally, due consideration should be given to updating the plan according to the frequencies given.

Even though this model specifically addresses BCP in residential areas, it should be noted that each building has its unique characteristics regarding residents, staff, building systems and procedures. Hence, this model is only a guideline which should be customised to suit the context of the building.

## ■6.0 CONCLUSIONS

The aim of this study is to propose a BCP model for MAs in condominiums to continue their operations during the on-going COVID-19 and future pandemics. Thus, the proposal elaborates in detail what a MA should follow regularly in order to ensure that the business is continued even during pandemics.

None of the organisations, who participated in this study, had BC plans in place for condominiums. The responses of the experts prove that even though most MAs were not prepared for such an impact from a pandemic like COVID-19, with the strength and the agility of the typical condominium management system, everything was put under control within a short period of time. However, all respondents suggested the implementation of BCP into this system, because the consequences of pandemics are never predictable and it is always better to be on the safe side.

Accordingly, the model proposed in this study comprises 6 steps in the BCP process namely, (1) business impact analysis, (2) risk assessment, (3) BC strategy identification, (4) BC plan development, (5) BC plan training and testing, (6) BC plan review and improvement. Each of these steps were elaborated to suit condominiums using the ideas and opinions of the experts. They also suggested that moving into emergency working conditions is quite easy in this industry as emergencies are usual in the normal condominium operation as well. Such arrangements support contingencies and it was highlighted as a benefit.

Since the entire hope of the residents during such a crisis is put in the MA, it is not acceptable if the MA is unable to provide the best service possible. The importance of this paper is therefore to enable organisations, specially FM, to tackle the situation in the smoothest possible way. The paper's specific proposal for condominiums provide MAs with a very systemic line of approach in mitigating the negatives of a pandemic. Industry practitioners can use this proposal to prepare staff, supply chain, finance, and communication contingency plans for possible resurgences of COVID-19 and future pandemics. However, due to the prevailing situation in the country, only 6 experts were interviewed, which is a limitation of this study.

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