

# Synergistic Relationships: Leadership, Preventive Management, and Business Continuity Management

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## Abstract

This study examines the intricate relationships between leadership, preventive management, and business continuity management in the construction industry. The research was conducted in Bangkok with the following objectives in mind: 1) to investigate the role and impact of leadership on the implementation of preventive management measures and the protection of business continuity; 2) to evaluate the prominence of preventive management within the broader framework of business continuity management, with a specific focus on the management of internal and external threats; and 3) to derive valuable insights that can not only be applied to Bangkok but also to other locations. To this purpose, 265 construction administrators were given a comprehensive questionnaire, including general managers, site managers, site engineers, and project managers. The acquired data were analyzed using Structural Equation Modeling (SEM), a robust statistical method that measures intricate interrelationships.

The findings reveal that leadership significantly influences the formulation and implementation of preventive management strategies, directly impacting business continuity. In addition, preventive management has emerged as a crucial

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pillar of business continuity management, emphasizing the need to identify and proactively resolve internal and external organizational threats. These results demonstrate that effective leadership and well-structured preventive management are crucial for ensuring business continuity, particularly in industries prone to disruptions. The findings of this study not only contribute to the academic comprehension of leadership and business continuity management and provide strategies for industry practitioners and policymakers. This study paves the way for future research across various industry landscapes and cultures by illuminating the dynamics of leadership behaviors in crisis management.

**Keywords:** Leadership, Preventive management, Business Continuity management.

## Introduction

The construction sector drives a nation's economic, societal, and political advancements (Ofori, 2015). The global construction industry is grappling with the impacts of the COVID-19 pandemic, making it imperative to devise methods to minimize the detrimental effects of this crisis. Such methods are needed to circumvent a downturn in economic growth that could potentially induce a recession. A vital strategy in this scenario is pinpointing industry stakeholders' emerging challenges amid this intricate situation (Duan et al., 2023).

Construction companies have been forced to dramatically change their mode of operation due to numerous worldwide lockdowns and restrictions. According to data from IHS Markit, global construction output shrank by 3.1% in 2020, which contrasts sharply with the 3.1% rise previously projected before the

epidemic. There are noticeable geographical differences, with output shrinking by 7.3%, 1.7%, and 0.9% in Western Europe, North America, and North-East Asia, respectively. Contractors have managed supply chain interruptions, project suspensions, and compliance with government rules while guaranteeing ongoing projects' completion and on-site personnel's safety. The pandemic response variations have worsened these problems (Dingel & Neiman, 2020).

For the pandemic's effects to be minimized, effective leadership is essential. Successful managers may motivate staff to preserve their health and give them the information they need to prevent the epidemic. In the end, this helps make the organization's operations more resilient. The virus is contained primarily through preventive measures, with early discovery, diagnosis, isolation, and treatment crucial steps in halting its transmission. These preventative strategies heavily emphasize isolating affected people and thorough infection control, which includes actions to be taken during the diagnosis and treatment of infected people (Sohrabi et al., 2020)

As the virus continues to propagate globally, maintaining a heightened awareness and implementing preventive measures become indispensable, given the virus's transformation into an "urban disease." This is particularly critical in the construction industry. The site administrator's leadership capability is vital to preventive management. However, how does this influence business continuity?

Therefore, the researcher is interested in examining how effective leadership is in connection to company continuity and preventive measures. Understanding these dynamics is essential for the current generation and for putting plans in place in case pandemics in the future start to spread. We can better prepare the construction sector and other sectors to react to similar events

in the future by using the lessons learned from this ongoing crisis. Thus, leadership's function in encouraging preventative measures and guaranteeing company continuity becomes a crucial research subject to protect our present and future societal and economic well-being.

## Research objectives

1. To investigate the role and influence of leadership in implementing preventive management measures and ensuring business continuity in the construction industry, with a specific focus on the Bangkok area.
2. To assess the significance of preventive management as a critical component of business continuity management, identifying its role in managing internal and external organizational threats.
3. To provide valuable insights and recommendations on effective leadership and business continuity management strategies, thus contributing to the knowledge body and aiding industry practitioners and policymakers.

## Literature Review

### Concept and Theory of Leadership

Leadership as a concept is diverse and multifaceted, with an extensive body of literature dedicated to its study. It is generally recognized as an influence process where leaders guide group actions toward achieving a common goal (Northouse, 2018). Leadership has been described as a complex and multidimensional process that cannot exist without the mutual relationship between leaders and followers (Bryman et al., 2011). In a fast-paced, modern business environment, leadership is increasingly critical due to constant changes, digital transformation, and technological progression (Uhl-Bien et al., 2007). Leaders are responsible for navigating these changes, presenting a strategic

approach to problem-solving, and enabling business continuity (Oreg & Berson, 2018).

There are various leadership theories, but one notably relevant today is the Path-Goal theory, initially proposed by House and Mitchell (1974). The theory suggests that a leader's primary responsibility is to remove barriers and enhance the enjoyment and engagement of their followers' pursuit of goals. According to this theory, there are four distinct leadership styles: directive, supportive, participatory, and goal-oriented. While supportive leadership is defined by approachability and care for followers' welfare, directive leadership is the leader providing explicit instructions on tasks and performance requirements. Collaboration and democracy are fostered by participatory leadership, which involves followers in the decision-making process. In contrast, achievement-oriented leadership sets ambitious objectives and exhibits excellent levels of confidence in the talents of the followers. The Path-Goal theory states that leaders should modify their approach based on the traits of their followers and the workplace environment, eventually striving to increase follower motivation, contentment, and performance. Another influential leadership theory is the Transformational Leadership theory, as proposed by Bass and Riggio (2006), which underscores the vital role of leaders in inspiring and propelling their followers to prioritize the organization's good over their self-interests. This leadership model rests on four pillars: idealized influence, where leaders exemplify ethical values and act as role models; inspirational motivation, where leaders instill a sense of purpose and team spirit; intellectual stimulation, encouraging creativity and questioning established norms; and individualized consideration, offering personalized mentorship for each follower's development. Ultimately, this leadership style fosters followers who are deeply committed to the leader's

vision, exceed performance expectations, and pursue continual personal and professional growth. Also worth mentioning is the concept of Servant Leadership, a concept introduced by Robert K. Greenleaf in 1970, which emphasizes the importance of leaders prioritizing the needs of their followers. Rather than focusing on power or control, servant leaders promote their team's and broader community's growth and well-being. They exhibit active listening, empathy, self-awareness, and the ability to heal relationships, persuasively communicate, conceptualize strategically, and demonstrate foresight. Above all, they are committed to fostering personal and professional growth in others and building a sense of community, which results in a more collaborative, ethical, and caring environment.

The Path-Goal Theory of Leadership, Transformational Leadership Theory, and Servant Leadership provide distinct perspectives on the role and behaviors of influential leaders. Path-Goal Theory emphasizes the leader's responsibility to make the journey toward goals more accessible, transparent, and motivating for followers. It acknowledges that leaders must adapt their style to the characteristics of their followers and the work environment to boost motivation, satisfaction, and performance. Transformational Leadership Theory, on the other hand, emphasizes the ability of leaders to inspire and motivate adherents to put the organization's collective good ahead of their self-interests. This strategy encourages innovation, promotes individualized consideration of the requirements of followers, fosters intellectual stimulation, and incorporates inspirational motivation. The concept of servant leadership emphasizes the requirements of the followers and views leadership as a service to others. These leaders prioritize the development and well-being of their team, nurturing a collaborative, ethical, and compassionate environment. These theories provide

valuable insight into leadership and its influence on followers' outcomes. However, the most influential leaders can adapt their leadership style to the requirements of their followers and the specific context in which they operate by incorporating elements from each model. Therefore, effective leadership may not be limited to a singular theory but is more likely a combination of these various perspectives.

Therefore, Leadership, preventive management, and business continuity management are crucial in nurturing organizational resilience and success. Leadership influences preventive management directly, as leaders establish safety protocols, assure resource allocation, and cultivate a safety culture. For example, according to the Path-Goal theory, directive leadership aids in establishing distinct preventive measures, whereas participative leadership encourages the participation of all stakeholders in risk strategy development. In contrast, the relationship between leadership and business continuity management is significant, as leaders supervise the creation, implementation, and disseminating of continuity plans. Transformational leaders inspire team resilience, ensuring continuity in adverse conditions. In alignment with the essence of business continuity, servant leaders prioritize the team's well-being by attending to their requirements to maintain operational processes. Consequently, the triadic relationship between leadership, preventive management, and business continuity management emphasizes the need for skilled leaders to guide their organizations through uncertainty and adversity. The hypotheses were proposed as follows:

**H<sub>1</sub>: Leadership has a positive influence on preventive management.**

**H<sub>2</sub>: Leadership has a positive influence on business continuity management.**

## Concept and Theory of Preventive Management

Preventive management emphasizes the significance of forward-thinking strategies and preparedness to mitigate risks and prevent potential challenges from evolving into more severe issues (Hale & Borys, 2013). The cornerstone of this concept is the idea that it is more cost-effective and efficient to deter a crisis than to respond to it once it has transpired. The broad activities within preventive management include risk evaluation, proactive planning, regular monitoring, and constant reassessment of strategies. Risk assessment involves determining potential risks, evaluating their prospective impact on an organization, and charting an appropriate response strategy (Dionne, 2013). Continuous monitoring is integral to this process, ensuring the prevention strategies effectively mitigate risks (Alberts & Dorofee, 2003).

The successful implementation of preventive management necessitates a paradigm shift from a reactive approach to a proactive one. Instead of waiting for problems to occur and then resolving them, preventive management focuses on anticipating potential issues and instituting measures to prevent them from occurring (Zsidisin et al., 2004). Leaders play a crucial role in the execution of effective preventive management. They must cultivate a culture that values and practices prevention, allocate resources for preventive measures, and participate actively in risk assessment and strategy formation (Kaplan & Mikes, 2012). As a result, effective preventive management can contribute to achieving strategic objectives, improving overall performance, and enhancing organizational resilience. Preventive management, emphasizing anticipation and proactive measures, is a crucial strategy in contemporary organizations. It plays a significant role in minimizing disruptions, enhancing resilience, and promoting business continuity.



## Prevention in COVID-19

Prevention is the best practice right now to reduce the impact of COVID-19, considering the lack of effective treatment. There is no vaccine currently to protect against COVID-19. The best Preventive measures to reduce the chances of infection include staying at home, wearing a mask, avoiding crowded places, keeping at least 6 feet distance from others, washing hands with soap and water often and for at least 20 seconds, practicing good respiratory hygiene, and avoiding touching the eyes, nose, or mouth with unwashed hands. Those who are diagnosed with COVID-19 or suspected they might be infected are advised by the CDC (Centers for Disease Control and Prevention, 2020) to stay home except to get medical care, call in advance before visiting a healthcare provider, wear a face mask before entering the healthcare provider's office and when in any room or vehicle with another person, cover coughs and sneezes with a tissue, regularly wash hands with soap and water and avoid sharing personal household items.

## Personal protective equipment

Chou et al. (2020) suggested that their frequent and close contact with infected patients suggests that healthcare personnel are more likely to contract COVID-19. Personal Protective Equipment (PPE), such as gloves, masks, and garments, is crucial in protecting healthcare workers against this risk. However, the efficacy of PPE depends on several variables, including the type of PPE used the correct donning and doffing procedures, and the environment in which it is used. The authors advocate for additional research to determine how these variables influence PPE's efficacy and identify additional strategies to safeguard healthcare workers from COVID-19.

## Face Masks

The World Health Organization (WHO) and several nations advise that the public use nonmedical facial masks in scenarios where the risk of transmission is high and social distancing is hard to maintain. This recommendation aims to curb the disease's spread among asymptomatic and pre-symptomatic people, and it supplements established preventative measures, including social distancing (Feng et al., 2020). Face masks can restrict the size and reach of respiratory droplets produced during talking, breathing, or coughing. They are highly recommended for those who might be infected and those caring for someone suffering from the disease (Esposito et al., 2020).

## Social distancing

Social distancing strategies aim to reduce contact of infected persons with large groups by closing schools and workplaces, restricting travel, and canceling large public gatherings. Distancing guidelines also include that people stay at least 2 meters (6.6 ft) apart. After the 7 of social distancing and stay-at-home orders, many regions have sustained an effective transmission rate ("Rt") of less than one, meaning the disease is in remission in those areas.

## Hand-washing and hygiene

Always proper hand hygiene after any cough or sneeze is encouraged. The WHO also recommends that individuals wash their hands often with soap and water for at least 20 seconds, especially after going to the toilet, when hands are dirty, before eating, or after blowing one's nose. The CDC recommends using an alcohol-based hand sanitizer with at least 60% alcohol, but only when soap and

water are not readily available. The WHO provides two formulations for local production for areas where commercial hand sanitizers are not readily available. In these formulations, antimicrobial activity arises from ethanol or isopropanol. Hydrogen peroxide is used to help eliminate bacterial spores in the alcohol; it is "not an active substance for hand antisepsis." Glycerol is added as a humectant. Sanitizing frequently touched surfaces is also recommended.

### **Management**

No antiviral treatment for COVID-19 is recommended, and no vaccine is available. Depending on the severity of the patient, various strategies are available. Residence administration is appropriate for asymptomatic patients. They require regular, mandatory assessments of their body temperature, blood pressure, oxygen saturation, and respiratory symptoms for approximately two weeks. These patients should prevent transmission to others, be monitored for clinical status, and, if necessary, be hospitalized immediately. COVID-19 outpatients should remain at home and attempt to isolate themselves from other household members. They must wear a face mask in the same room (or vehicle) as others. In the context of clinical settings. Also required are the cleaning and disinfection of frequently contacted surfaces. Uncertainty surrounds the optimal duration of home isolation, but 14 days without symptoms (fever, breathing problems, etc.) is considered sufficient to terminate home isolation. People are treated with supportive care, including fluid therapy, oxygen support, and care for other vital organs affected. The CDC advises those who suspect they contain the virus to wear a simple face mask. Extracorporeal membrane oxygenation (ECMO) has been utilized to diagnose respiratory failure, but its benefits are still being evaluated. A nutritious diet and good personal hygiene are recommended to

boost immunity. Supportive remedies may benefit patients with mild symptoms in the earliest stages of an infection.

In situations as delicate as the COVID-19 crisis, the issue lies not with a scarcity of solutions but rather the incompetence of leadership steering society. Arbitrary and divisive leadership is likely to falter in mitigating a pandemic. Middle-level leadership interventions may remedy organizational hurdles, such as fostering peer exchange or altering top-level leadership styles to embrace stress-preventive strategies. Other constraints, like staff shortages, relate to working conditions, and these can only be influenced through health policy decisions and preventive management strategies (Hanna et al., 2022).

In any business sector, business continuity management (BCM) is considered a crucial part of a larger framework or a component of other management processes (Partager, 2023). Preventive management and business impact analysis are key activities within BCM, governed under the company's governance and risk management policy. Preventive management primarily seeks to pinpoint and prioritize internal and external threats before formulating and implementing action plans to mitigate risk. Under the umbrella of BCM, business impact analysis relates to the critical processes tied to business risks, as outlined in an organization's preventive management program (Melnik et al., 2022). The hypothesis was proposed as follows:

**H<sub>3</sub>: Preventive management positively influences business continuity management.**

### **Concept and Theory of Business Continuity Management (BCM)**

Business Continuity Management (BCM) is an integral component of any robust organizational strategy, providing a road map for maintaining operations

during unforeseen disruptive events and assisting an organization in returning to a standard or near-normal state as soon as possible. It is intended to secure an organization against potential disruptions, such as natural disasters, IT failures, supply chain interruptions, and human-related incidents, such as strikes or malicious acts (Hiles, 2011; Partager, 2023). BCM entails an exhaustive evaluation of an organization's critical functions and processes, as well as an analysis of potential threats and their potential consequences. This phase, also known as a risk assessment or business impact analysis, assists in identifying vulnerabilities and the potential effects of a disruption on operations (Elliott et al., 2010). After identifying threats and vulnerabilities, the organization must devise a proactive plan to mitigate these risks. This includes implementing preventative measures, developing response strategies, and establishing recovery procedures. This phase may involve the creation of alternative operational sites, establishing backup procedures, and developing communication plans (Elliott et al., 2010).

In addition, BCM is not a one-time event. It is a dynamic process that requires periodic evaluations, updates, and enhancements in response to changes in the business environment or the organization. BCM must be thoroughly integrated into an organization's culture and regular operations to be effective, and top-level management must support it (Hiles, 2011). BCM also includes training and awareness programs to familiarize employees with their duties and responsibilities during interruptions. Testing and exercises are essential elements of BCM, as they identify gaps and areas for improvement while enhancing the organization's preparedness for disruptions (BCI, 2018).

Business continuity is a process within which organizations can predict and overcome disruptions, eliminate the risk of holding the operations, and continue operating. BCP is to mitigate risk, reduce the impact of risks, and ensure it operates

as usual. Until now, there was no specific standard or framework to make a BCP. The framework has eight elements and 38 activities by adopting PDCA (Plan-Do-Check-Act) in Figure 1.

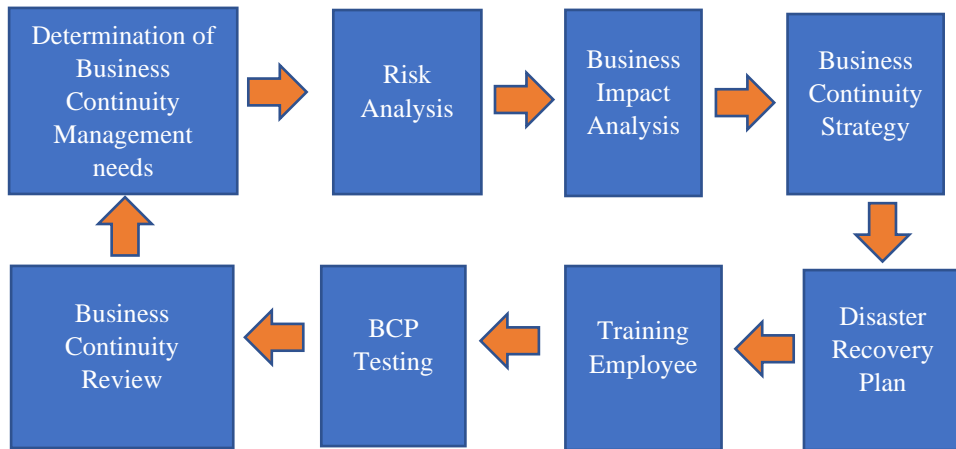


Figure 1. PDCA Framework

Source: (Deming, 1986)

In a study conducted by Wu et al. (2021), it was emphasized that organizations need to enhance their resilience to remain competitive and prosperous in the current volatile market. Both private and public sector entities must be well-prepared to handle and swiftly respond to any unexpected crises to mitigate operational disruptions. The authors noted that significant operational failures could decrease service quality and even cause considerable financial losses, mainly if the disruption is extensive or prolonged.

### Research model

Based on the literature review above and the actual situation, a model for the linkage between leadership, preventive management, and business continuity management is shown in Figure 2. This model contains two endogenous variables (preventive and business continuity management) and one exogenous variable (leadership).

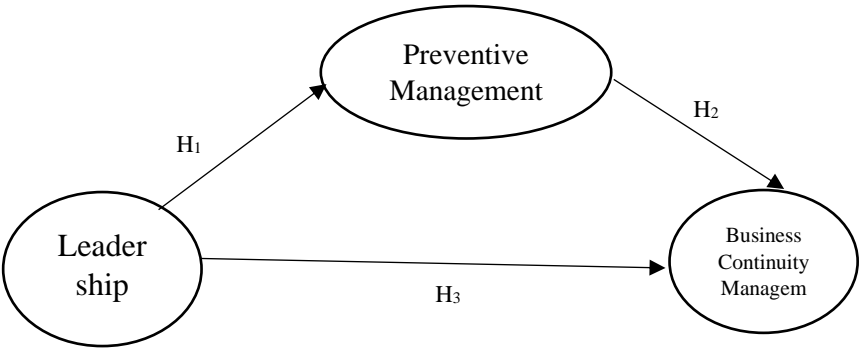


Figure 2. Conceptual Framework

Questionnaire Design

In this research, the questionnaire includes three parts: Part one focuses on the basic information of respondents, and part two, which is the core of this questionnaire, focuses on nineteen measurement items about the above three explanatory variables. The 5-Point Likert Scale was adopted for the survey and the items about the linkage of the three latent variables. However, some adjustments were made to the research model in this paper. Table 1 presents the questionnaire in detail.

Table 1 Variables and measurement items

Variable	No.	Measurement Item	References
Leadership	LM1	Identify the Problem	(Northouse, 2018)
	LM2	Identify the potential issues involve	(Oreg & Berson, 2018)
	LM3	Review Relevant Ethical Guideline	
	LM4	Know Relevant Laws and regulations	
	LM5	Obtain Consultation	



Variable	No.	Measurement Item	References
	LM6	Consider the possible and probable courses of action.	
	LM7	List the consequence of the probable course of action.	
	LM8	Decide on what appears to be the best course of action.	
Preventive Management	PM1	Sufficient Health Knowledge	(Hale & Borys, 2013)
	PM2	I am motivated by friends and Family.	(Dionne, 2013)
	PM3	With a Companion	
	PM4	Understand Health Status	
	PM5	Previous Experience	
	PM6	Completeness of Item	
	PM7	Expense Need	
	PM8	Convenient Location	
	PM9	Quality of Medical Devices	
	PM10	Process Layout Planning	
	PM11	Incentive Offered	
	PM12	Asymptomatic without Check	
	PM13	Lack of time	
	PM14	Afraid of Potential Health Problems	
Business Continuity Management	BCM1	Management Support	(Elliott, Swartz, & Herbane, 2010)
	BCM2	Organization Preparedness	(Hiles, 2011)
	BCM3	External Requirement	

Research Methodology

Data collection

This questionnaire was administered from April to December 2022 using a stratified random sampling method. By dividing the study area into 50 districts in Bangkok and five suburban areas, questionnaires were disseminated to all administrators at 265 construction sites divided into two work sites per district.

Data analysis

Statistical Package for the Social Sciences (SPSS) version 25.0 and AMOS version 21.0 (copyright) were used to analyze the data in this study. The relationship between each latent variable was analyzed using a structural equation model (SEM).

Results and Discussion

The sample included 265 construction managers from Bangkok and the surrounding area. Most participants were male (77.4%), with an average age of 39.3 years. As shown in Table 2, the majority of participants were secondary school graduates (25%) and high school graduates (48%) with bachelor's degrees (10.6%), master's degrees (79.6%), and doctorates (9.8 percent).

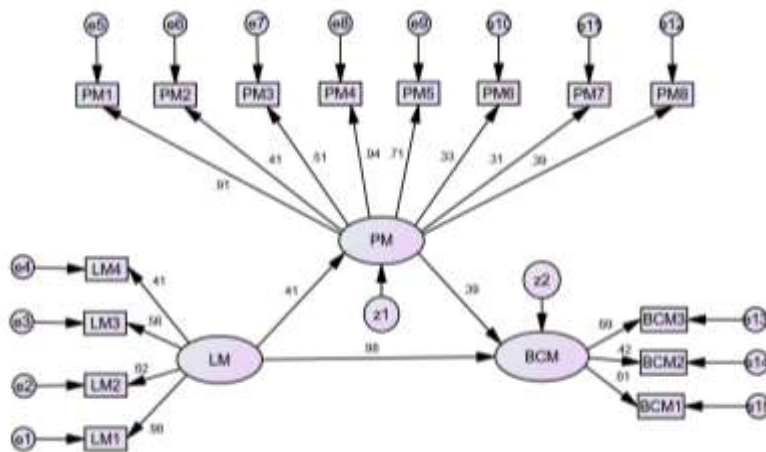
Table 2 Demographic characteristics of samples

Basic Information	Item	Frequency	Percentage
Gender	Male	205	77.4%
	Female	60	22.6%
Age (yr.)	Average	39.3 years	
Education background	Bachelor's	28	10.6%
	Degree		

Basic Information	Item	Frequency	Percentage
	Master's Degree	211	79.6%
	Doctor's Degree	3	0.01%
Income	30,001 – 50,000 baths	3	1.1%
	50,001 – 80,000 baths	17	6.4%
	80,001 – Above	228	86%
Position	General Manager	5	1.9%
	Site Engineer	30	11.3%
	Project Engineer	228	86%
	Project Manager	17	6.4

The results indicated that the model fit the empirical data ( $\chi^2 = 40.451$ ,  $df = 71$ ,  $\chi^2/df = .570$ ,  $p = .999$ ,  $GFI = .981$ ,  $AGFI = .967$ ,  $CFI = 1.00$ ,  $RMSEA = .000$ ,  $RMR = .005$ ,  $NFI = .967$ ). The findings revealed that leadership is the most influential factor affecting business continuity management. Preventive management also had a positive impact on business continuity management. In

addition, it also played a mediating role in the relationship between leadership and business continuity management, as illustrated by Figure 4.



$$\chi^2 = 40.451, df = 71, \chi^2/df = .570, p = .999, GFI = .981, AGFI = .967$$

$$CFI = 1.00, RMSEA = .000, RMR = .005, NFI = .967$$

Figure 4. Structural Equation Model (SEM)

## Discussion and Conclusion

According to this research findings, leadership is crucial to business continuity management. This is consistent with Bakar, Yaacob, and Mohamed Udin's (2015) study, which demonstrated that solid leadership can promote organizational continuity. The trajectory of an organization is inextricably linked to the decisions made by its executives. Leadership is the foundation of organizational success in the contemporary socioeconomic environment (Mirjana et al., 2022). Diverse scholarly sources also emphasize the central role of leadership in the business continuity management of an organization. One of the most essential characteristics of leadership is the capacity to provide guidance that ensures the continued operation of vital business sectors following major incidents or their return to normal operations within a reasonable timeframe. Our research also uncovered the impact of leadership on preventive management in

construction site administration, corroborating The Health Foundation's (2015) assertions regarding the significance of leadership in infection prevention and control. Considering the challenges of maintaining construction sites and labor centers free of disease in the future, site administrators must give preventive management the attention it deserves. This emphasizes the need for site administrators to receive training to develop and improve their leadership skills to effectively manage and lead their teams (Kouzes & Posner, 2012; Hersey, 2008).

### **Implication**

This study's findings can draw several implications for future research and clinical practice. This study enriches the literature on leadership and its impact on preventive and business continuity management, providing new angles for future research to investigate. Regarding practical implications, leaders should integrate leadership development and training into their strategic planning, particularly those in industries with a high risk of disruption, such as the construction industry. The findings of this research highlight the significance of leadership qualities in the administration of preventive measures and business continuity. Leaders are essential in establishing the tone for an organization's response to disruptions and recovery efforts. Therefore, leadership development programs can enhance an organization's capacity to manage crises and maintain continuity effectively.

In addition, it is demonstrated that preventive management is an essential component of business continuity management. Prioritize the identification of internal and external hazards and the creation of action plans to mitigate risk. Preventive management and effective leadership can increase an organization's resilience, allowing it to recover from disruptions quickly.

Finally, the findings provide policymakers with valuable insights for devising guidelines for industries at high risk of disruption. Given leadership's significant impact on business continuity management, policies should be developed to encourage leadership development and the implementation of effective preventive management strategies. Future research could investigate the dynamics of leadership behavior in managing crises and ensuring business continuity across diverse cultural and industry contexts. It will provide a more nuanced understanding of how leadership influences business continuity management under different circumstances.

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