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## **THE ROLE OF TEAM LEADERSHIP ON SEARCH AND RESCUE (SAR) TEAM PERFORMANCE IN DISASTER MANAGEMENT**

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### ABSTRACT

Disaster management in Malaysia was ingrained to manage calamity depending on the degree of a disaster before, during, and after disasters occur. The Search and Rescue (SAR) team refers to individuals with the necessary experience and intelligence to search for people in distressed circumstances such as victims of natural phenomena, trapped at the top, or lost in deserts. Based on this notion, this study aimed to examine the direct relationship between team leadership and aid team performance and the indirect relationship between team leadership and rescue team via the mediating role of team motivation. A total of 100 SAR team members from nine states in Peninsular Malaysia participated in this study. Data were collected using questionnaires distributed to the SAR team of the Fire and Rescue Department of Malaysia (FRDM). The Partial Least Squares (PLS) Version 3 and Statistical Package for the Social Sciences (SPSS) Version 26 analyzed the hypotheses. The results indicated a significant positive relationship between team leadership and team performance and a significant relationship between team leadership and team performance via the mediating role of team motivation.

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## **1. Introduction**

According to Adi (2019), team performance is the ability of the team to achieve its objective by putting in effort, skills, and experience. This study focuses on the rescue team's ability to undertake disaster management operations by using skills, knowledge, and experience within the targeted time. Salas-Vallina, Alegre, and López-Cabrales (2020) explained that organizational performance relies heavily on individual and team performance. The team's leadership specifically induces performance because the support and commitment from leaders play a vital role in encouraging team members to perform better. Leadership highlights the personal and interpersonal dynamics of how individuals in a team influence each other toward achieving organizational goals (Allen, 2018). A good leader can influence followers to follow his instructions to complete a task and achieve organizational goals (Allen, 2018; Adi, 2019).

In addition, team performance refers to the team's ability to meet the objective set by the organization in three aspects, namely (1) quality, (2) quantity, and (3) targeted time (Adi, 2019). In this research, SAR team performance refers to the crew's ability to meet the organizational goals in a targeted time. An effective team manages their time in completing the disaster management operation (Bachrach & Rapp, 2013). Hence, a team's capability to complete operations within the targeted time will produce better performance. SAR teams are the frontliners of rescue missions and refer to individuals with the needed skills and expertise to rescue people in emergencies such as unforeseen events and lost in mountains or deserts (Zailan, Alsagoff, Awang, & Mohd, 2013). Additionally, SAR efforts specify the actions and forces of the team to find, help, and rescue people's lives when they are lost or missing. Furthermore, the SAR crew handles the management of disasters (Micheletto, Petrucci, Santos, Orozco, Mosse, Ochoa, & Meseguer, 2018). The SAR crew are good at moving fast in searching and rescuing sufferers during disasters.

The rescue effort during disaster management includes SAR in water, forest, collapsed buildings, flood, and landslide disasters. The disaster management assignment is undertaken based on the area, district, or complex spaces such as forest, mountain, ocean, river, desert, and urban areas. Most incidents in urban areas result from crumple structures. Besides, SAR missions also apply to aeronautics events such as jet hits, anxious landings, and others. Similarly, voyage occurrences include drowned, burned, and violated ships or boats (Suhaimi et al., 2014). There are four principles that SAR teams adhere to when dealing with disaster; mitigation, preparedness, response, and recovery (Bogue, 2019).

The search and rescue operations during a disaster can only be undertaken by a skilled team that is efficient to handle complex and urgent services. Besides, the crew requires being equipped with skills that will not threaten the crew and victims. The search and rescue efforts during disaster comprise numerous security agencies such as the infantry, force, fire-fighters, public emergency team, and nurses. Each county in charge of the organization for rescue disaster management has corresponded with the incidents that often occur in each nation (Bogue, 2019). For instant, as referred by the Official Website of Majlis Keselamatan Negara (2019), agencies involved in SAR disaster management in Malaysia are the FRDM, Royal Malaysia Police (PDRM), Angkatan Tentera Malaysia (ATM), Jabatan Pertahanan Awam Malaysia (JPAM), and Persatuan Bulan Sabit Merah (PBSM). The SAR in this study concentrated on the rescue crew of FRDM.

### 1.1 The Structure of FRDM Rescue Disaster Management

In Malaysia, National Security Council's Directive No. 20 was responsible for establishing disaster management. This council was obliged to handle tragedies before, during, and after a tragedy takes place. This scene describes how FRDM's aid bodies handle tragedies. Table 1 below describes the disparity between accident, incident, and disaster.

Table 1  
Difference between Accident, Incident, and Disaster in FRDM

Process	Involvement of FRDM	Transfer of Command	Notes
<b>Disaster</b> ↑	State	Incident Command System (ICS)	The phenomenon is more complicated than incidents and accidents, impacting the economy, ecosystem, and routine affairs.
<b>Incident</b> ↑	Zone	Incident Command System (ICS)	Transfer of Command should be settled below ten minutes.
<b>Accident</b>	Station	Incident Command System (ICS)	

Based on Table 1, the communication process happens from one stage to another, whereas the participation of FRDM's rescue crew depends on the problem's earnestness. The category of tragedy begins with accident, incident, and then disaster. An accident usually happens locally, can be managed, and has no perspective to escalate. Accidents are routine cases handled by the rescue team at the nearest FRDM station. An accident is a minimal complicated case compared to an incident and a disaster. It only leads to traffic jams, applies minimum consequences to the people, and takes a moment to rescue victims who suffer in an accident, such as the case operated by a rescue crew within 10 minutes (Ahmad Shauqi, 2013).

However, occasionally the accident can be more critical and challenging for the team at the nearest station to settle. Thus, aid crews at the zone level will be in charge. The crews at the station shall contact the zone's crew about the accident in ten minutes. The transfer of command between station and zone exists via the Incident Command System (ICS) stage. The ICS hierarchy is a regulated path to command, control, and emergency response coordination (Official Page: Friends of Bomba, 2019).

The accident case automatically changes to an incident when the zone's team is in charge. Incidents are a middle phase tragedy that occurred in more than one district (National Security Council Directive No. 20, 2012). Then, the transfer of command implies when the zone's rescue team failed to conduct the operation. Thus, the transfer of command passed to the last category, known as a disaster involving a rescue team at the state level.

A disaster is the most critical and impactful tragedy that hit in the long term, resulting in an economic failure, ecosystem breakdown, and interruption of people's regular lives (National Security Council Directive No. 20, 2012). An extended period is required to handle disaster phase tragedy, such as days, months, or maybe years (Official Page: Friends of Bomba, 2019). For example, a current disaster-hit Malaysia, such as the Covid-19 pandemic, associates many groups from every state, zone, and station to operate public sanitizing to control the spread of the virus.

## **2. Team Leadership**

Team leadership is acknowledged as a critical element of team performance (Lai, Hsu, & Li, 2018). It refers to the leader's ability to motivate team members towards the final team goal (Lai et al., 2018). Hence, a successful leader motivating the team members will lead to high team performance (Banks, McCauley, Gardner & Guler, 2016). Similarly, team leadership is the ability of the leader to encourage the followers to commit to the team to ensure that goals can be achieved (Tyssen, Wald, and Spieth, 2014). The team leadership also shapes team members' perceptions of the team, organization, acceptance of innovations, and motivation leading to team performance (Tyssen et al., 2014).

### **2.1 Aspects of Team Leadership**

Past studies have highlighted that team leadership contributes to team performance (Wang, Waldman, Zhang, 2014). According to Lai et al. (2018), team leadership is categorized into four aspects: (1) idealized influence, (2) inspirational motivation, (3) intellectual stimulation, and (4) individualized consideration.

#### ***Idealized Influence***

Idealized influence refers to leaders with high moral and ethical standards, who can influence other team members, and are respected, admired, and trusted by team members (Lai et al., 2018; Purwadita, Sudiro, Mugiono, Idris, 2018). Hence, the followers will follow the leader's instructions and produce better performance when the leader can idealize influence from the followers (Tyssen et al., 2014). The SAR team leaders should possess delegation and empowerment characteristics. The delegation and empowerment responsibility should be on someone with the power to ensure that the chain and command process can be established quickly between leaders and team members (Gabliks, 2019). In summary, the statement refers to an individual with authority and power in administration, such as the Officer Commander, Zone Leader, and State Operation Officer. The chain and command process between leader and team members in disaster management is critical to ensure that leaders give clear instructions and information to team members (Federal Emergency Management Agency, 2018).

Explicit instruction and information can determine the success of the disaster management operation. Thus, the division of authority by empowering team members based on trust, abilities, willingness, guiding and developing team members' creativity, and paying attention to team members' strategic problem-solving will improve the team performance (Adi, 2019). Besides, the characteristic of SAR team leaders that aligns with idealized influence support rules. An aid crew leader should be an individual that follows and obey the rules because there are Standard Operation Procedures (SOP) and guidelines in every disaster management operation. Hence, a SAR crew leader can decide by referring to the existing SOP to ensure that ICS decision-making is intelligent and leads to low-risk incident impact decision-making (Federal Emergency Management Agency, 2018).

The SAR team leaders should be good communicators because communication is crucial in rescue units to transmit and gain instruction when undertaking operations (Harris & Nelson, 2008). Active contact between team member and the commander prevail via communication. Besides, intense social and communicative processes are the principle to evolve and execute organizational competency (Harris & Nelson, 2008). Hence, communication can assist team members and crews in coordinating activities to achieve vital goals in socialization, decision-making, problem-solving and change-management processes.

### ***Inspirational Motivation***

Inspirational motivation refers to leaders with a clear vision and inspiring members based on values and ideals. Inspirational motivation is the ability of a mastermind to deal with meaningful and high-standard tasks (Lai et al., 2018; Purwadita et al., 2018). Leaders create appealing visions by showing optimism about followers' abilities, establishing a sense of purpose, and encouraging team spirit (Wang et al., 2014). Inspirational motivation is in line with the characteristic of the fire superintendent, who is the decision-maker. A decision-maker is an individual capable and responsible for deciding the terms in individual or group decisions.

The firefighter crew in charge must consider various aspects such as theoretical, scientific, or practical from the Section Chief or expert workforce despite being an authority or power in decision-making (Arar & Orucu, 2021). The decision made by a firefighter crew in charge is critical because it impacts aspects such as safety, life, cost, and short-term and long-term consequence of the disaster or incident. The firefighter crew in charge should have good character, intelligent, skilled, knowledgeable, experienced, and an expert in a particular scope of the incident because the final decision-making is under the obligation of the firefighter crew in charge (Purwadita et al., 2018).

Furthermore, as asserted by Tyran, Tyran, & Shepherd (2003), the responsibility of a rescue commander is to authorize a clear target and mission and ensure that followers clearly understand the stated mission. For instance, the commander has established clear missions in disaster management to rescue the sufferer's life in a period. The commander should ensure that all the followers have a clear understanding of that operation. Thus, the rescue team will utilize their abilities to search and rescue the sufferer to accomplish the objectives when they understand the mission.

### ***Intellectual Stimulation***

Conversely, intellectual stimulation refers to a leader who stimulates their team member's thinking to be divergent and creative by questioning assumptions and redefining the problems. The leader prefers the team members to be intelligent, rational, and utilize critical thinking when problem-solving to develop strategies (Wang et al., 2014; Lai et al., 2018; Purwadita et al., 2018). For instance, the crew leader should understand the ICS concept and function. The rescue team practices incident management by adhering to the ICS model. Hence, an aid group leader should be an expert in conceptualizing the ICS model and every function, such as section, subsection, and team.

The leader needs to be skilled in processing and manipulating the ICS model according to the suitability of the operation, membership, and situation. The ICS can be formed based on the suitability of field operations and available membership. Besides, the structure of ICS also can be expanded and scaled down according to operation scale and function. Hence, the team leader must clearly understand ICS functions to effectively apply the ICS structure and the full

strength of strategies (Federal Emergency Management Agency, 2018). Moreover, the group leader should be proactive, committed, and passionate. For example, the commander engagement results in high performance, positive attitudes, and passion. Commander commitment is classified as a positive attachment and gives maximum energy to the organization's success (Wellins, Bernthal, & Phelps, 2005)

The commander's commitment to their jobs and performance benefits the organization (Cawe, 2006). Leaders commit to their feelings about the organization and practice those feelings to finish assignments (Greenberg, 2014). Therefore, leader commitment is about driving team commitment towards the organizational goal. Besides understanding the ICS model, and being proactive, committed, and passionate, an incident commander should have the characteristic of becoming realistic about personal limitations. The commander also should be realistic by arranging the strategies before initiating the disaster management operation. Besides, the commander should alert the team members' limitations regarding the number of team members, skills, and commitment. Hence, operations planning strategy can be arranged effectively and systematically by implementing these techniques (Beydoun, Dascalu, Dominey-Howes, & Sheehan, 2018).

A commander should also be knowledgeable and able to gather the appropriate resources. Additionally, a commander should know that various technical, tactical, and engineered elements should be considered during disaster management operations. Hence, the commander should be a critical or creative thinker when fully utilizing the resources available during disaster management operations. The best decision made by the commander can result in an excellent performance and save cost, time, logistics, and workforce (Arar & Orucu, 2021).

### **Individualized Consideration**

Individualized consideration refers to a leader who provides personal attention to the team member's needs (Wang et al., 2014; Lai et al., 2018; Purwadita et al., 2018). The leaders acknowledge every follower's needs, provide support and empathy, and consider individual talents, backgrounds, and situations (Wang et al., 2014). Individualized consideration aligns with the character of the SAR team leader that can set priorities. A leader needs to have the ability to prioritize and organize tasks that allow the team to improve their time in task completion and achieve objectives and goals in disaster management (Beydoun et al., 2018). For example, the main objective of a landslide disaster in Cameron Highlands was to rescue the buried victims by referring to the RECEO concept. However, the leader set the priorities by making evacuation the main objective due to land movement and heavy rain. Hence, rescuing the buried victims was the second objective because the evacuation was more critical to avoid further worst consequences (Albanese & Paturas, 2018).

Every priority set up by an aid team leader will consider the safety of the SAR unit as a part of their SOP. Thus, a leader should be competent in determining priorities during disaster management operations. The team members can act and work based on the priorities set up by the leaders (Albanese & Paturas, 2018). Besides, the incident commander should also give clear, accurate, concise, simple, solid, and well-structured directions. The leader only needs to give the master command while allowing the Section Chief to devise a more detailed motion plan because the chief understands the job scope better (Arar & Orucu, 2021). Thus, based on the above discussions on team leadership, the following hypothesis was proposed:

Hypothesis 1: There is a direct relationship between team leadership and SAR team performance.

### 3. The Mediating Role of Team Motivation

Team motivation inspires a team to perform the best, deriving from intrinsic or extrinsic motivation. Team motivation is the aspiration of a team to conduct a daily task as granted in the employment contract (Salifu & Agbenyega, 2013). Alternatively, Caillier (2016) stated that motivation is the desire in a team that results in the team acting. The team usually performs and completes the task to achieve the goal. The team's confidence and enhancement of rescue crew motivation exist via the appreciation of the excellent performance. Thus, it could lead teams to commit to the mission (Albrech, 2011). Team motivation in the rescue context signifies enthusiasm for aid crews to perform the best mission that helps boost team performance (Schaffer, 2008).

Motivation is vital to help the crews complete their assignment and gradually contribute a sensation of positive behavior via their operation (Schaffer, 2008). Thus, motivation permits the team to drive towards the organizational objectives. Zaccaro and Nelson (2008) mentioned that a highly motivated group would work towards the rescue operation's accomplishment and dispense their achievement in the operation process. The SAR crew remains motivated when their demands are satisfied, and the expected results are accomplished. Wang, Kim, and Lee (2016) and Shahreki, Ganesan, and Nguyen (2020) found that good leadership increases team performance where team motivation mediates team leadership and SAR team performance.

The SAR commanders develop the committing aspect in influencing the team's motivation as the team involves various disaster management missions (Lees & Dhanpat, 2021). Team motivation is in the team commander's best concert to navigate towards a successful rescue mission. In addition, motivation can influence, boost, and vitalize crew members to accomplish regular targets throughout the cooperation. The motivational drive could be achieved by creating and maintaining a motivating setting by giving direction and support to the crews (Qaiser Danish, Khalid Khan, Shahid, Raza & Humayon, 2015). Hence, team leadership can increase team motivation to produce better SAR team performance. Therefore, based on the above explanation, team leadership and SAR team performance can positively and significantly relate to team motivation. The following hypothesis is proposed:

Hypothesis 2: Team motivation will mediate the relationship between team leadership and SAR team performance.

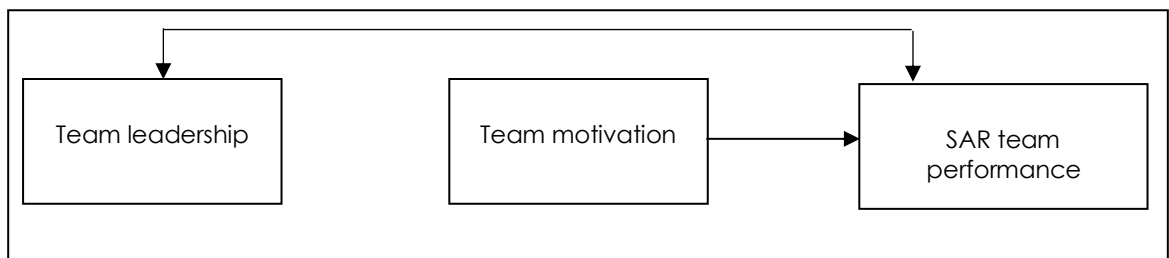


Figure 1. Disaster management team leadership model



This study analyzed the direct relationship between team leadership and SAR team performance and the indirect relationship between team leadership and SAR team via the mediating role of team motivation. Data were collected at the team level through self-administered questionnaires distributed to FRDM SAR teams in a non-fixed setting, with minimal contact between respondents and the researchers.

#### **4. Methodology**

This research aimed to examine the effect of team leadership and the mediating role of team motivation on rescue team performance. The aggregation of the score was conducted. Data were collected cross-sectional at the team level. This research focuses on FRDM rescue teams in Peninsular Malaysia. The unit of analysis was the team, whereas the data was collected from teams assigned to disaster management.

##### **4.1. Measurement**

Team performance items in the questionnaire consisted of 14 items adapted from Morgeson et al. (2005). Besides team performance, the team leadership scale adapted from Gruman and Saks (2011) consisted of ten items, while team motivation was adapted from Chandrasekar (2011). Team leadership was measured through a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. In contrast, the evaluation for team leadership and team motivation was conducted via a seven-point Likert scale ranging from (1) strongly disagree to (7) strongly agree, respectively. The reliability of each measurement is listed in Table 2.

*Table 2*  
*Reliability Analysis of Research Instruments*

<b>Instruments</b>	<b>Reliability</b>	<b>Source</b>
Team performance	0.91	Morgeson et al. (2005)
Team leadership	0.90	Gruman and Saks (2011)
motivation Team	0.81	Chandrasekar (2011)

## 5. Data Analysis

Rescue teams' demographics and descriptive data, including percentages and frequencies, were examined using the SPSS Version 24 software. The data analysis was computed throughout the Structural Equation Modelling (SEM) technique using PLS analysis via SmartPLS Version 3 for a deeper analysis and hypothesis testing (Ringle et al., 2005). The model's strength was also evaluated via R2 and Q2 statistics in adherence to Cohen (1988) and Chin (1998).

## 6. Results

The result begins with demographic profile, assessment of measurement model, and both hypotheses testing for direct relationship and mediation paths.

### 6.1. Demographic Profile

Most respondents were between 31 to 40 years old (41.0%), followed by 20 to 30 years old (35.0%) from the total number of team members. Team members aged 41 to 50 represented 16.0%, whereas 8% were aged 51 to 60. The majority of the team members were male (99.0%), while only 1.0% were female. Most team members were male because firefighters deal with heavy equipment exceeding 20 kilograms and above (Subramaniam, Zin & Nadir, 2013). Most respondents were Malays (92.0%), while the other races amounted to only 8.0%. Based on data from the Department of Statistics (2021), in 2014-2018, 79.45% of those interested in joining the Malaysian public service were Malays. Additionally, in terms of position, most SAR team personnel were Fire Officers (67.0%), Senior Fire Officers (19.0%), and Assistant Fire Superintendents (14.0%). Subsequently, 84.0% of them were team members, and 16.0% were team leaders. Fire Officers monopolize the position because the intake is more than other positions annually (Department of Statistics Malaysia, 2021).

### 6.2. Assessment of Measurement Model

The convergent validity was analyzed to evaluate the measurement model. The examination included indicator loadings, average variance extracted (AVE), and composite reliability (CR). Based on the results presented in Table 3, outer loadings of each construct were accepted at above 0.50, as suggested by Fornell and Larcker (1981). The AVE of each construct exceeds the 0.50 cut-off value as recommended by Fornell and Larcker (1981) and supported by Hair, Hult, Ringle, and Sarstedt (2016). The items used for team leadership, team motivation, and team performance demonstrated an acceptable level of convergent validity.

*Table 3*

*Outer loading values, composite reliability (CR), and average variance extracted (AVE) of team leadership, motivation, and performance*

<b>Construct</b>	<b>CR</b>	<b>AVE</b>
<b>Team leadership</b>	0.981	0.772
<b>Team motivation</b>	0.973	0.820
<b>Team performance</b>	0.962	0.649

The discriminant validity of the measurement model was tested following the examination of convergent validity. Discriminant validity was examined to ensure that each construct was unique and different from the others. Hence, the variables could measure the intended aspect.

The discriminant validity was established by examining the correlation among the constructs. The findings found that each construct was smaller than AVE square rooted. Table 4 presents these values, where the square root values of AVE are presented diagonally. Besides, the cross-loading of the indicator was examined to ensure that the loading was the highest for the constructs.

Table 4  
Correlation Values for Team Leadership and SAR Team Performance

	Team leadership	Team motivation	SAR Team performance
Team leadership	<b>0.879</b>		
Team motivation	0.584	<b>0.806</b>	
SAR team performance	0.549	0.811	<b>0.906</b>

### 6.3. Hypothesis Testing

The relationships between the independent variables (exogenous variables) and the dependent variables (endogenous variables) were determined through hypothesis testing. Table 5 exhibits the path coefficient values between the independent variables and dependent variables. The nonparametric bootstrapping method was used to test the path coefficients for significance. In SmartPLS Version 3, t-values is generated alongside p-value, where  $t > 1.96$  is equivalent to  $p < 0.05$ . Table 5 presents the acquired t-values. Team leadership and team performance significantly affected SAR team performance, although t-value = 1.700,  $t < 1.96$ . However, this value is significant because p-value = 0.045,  $p < 0.05$ . Thus, Hypothesis 1 was supported.

Table 5  
Path Coefficient for Team Leadership and SAR Team Performance

Relationship	t-value	p-value
Team leadership → SAR team performance	1.700	0.045

### 6.4. Hypothesis Testing for Mediation Paths

The role of team motivation as a mediator between team leadership and team performance was examined using the coefficients method suggested by MacKinnon (2007). The method was completed by computing the multiplication effect of two paths ( $a*b$ ). The path estimates will be divided by a standard error value to determine the significance of the mediation path. The mediated pathway that has  $p < 0.05$  is significant. The mediating role of team motivation in the relationship between team leadership and team performance was computed, and the results are displayed in Table 6 below. Based on Table 6, mediation is significant at  $t > 1.96$  and  $p < 0.05$ . The bootstrapping analysis showed that the indirect effect,  $\beta = 0.474$ , is significant with a t-value of 5.773. Hence, the result can be summarised that the mediation effect is statistically significant.

Table 6  
Path coefficient for mediation path between team leadership and SAR team performance

No.	Relationship	Std. Beta	Std. Error	t-value	Confidence Interval (BC)		Decision
					LL	UL	
H2	Team leadership → Team motivation → SAR team performance	0.474	0.082	5.773	0.302	0.613	Supported

\*Note: Abbreviations = LL – Lower Loadings / UL – Upper Loadings

## 7. Discussions

The findings of this study proved a significant positive relationship between team leadership and team performance and a significant relationship between team leadership and team performance via the mediating role of team motivation. The analysis revealed that team leaders had a positive and significant relationship with SAR team performance ( $p$ -value = 0.045). This result denotes that the team members acknowledged the need to have leaders for mission success as leaders inspire members to accomplish assignments effectively. Similarly, leaders play an essential role in rescue teams by improving team performance because the leaders' nature and behavior are embellished in leadership patterns.

Through leadership, the team members have trust, pride, loyalty, and respect and feel motivated to go beyond expectations. Cole, Michael, Bedeian, Bruch, Heike (2011), Rao, Srinivasa, Abdul, & Waheed Kareem (2015), Ruben and Gigliotti (2016), and Horila and Siitonen (2020) found that there is a strong effect between team leadership and team performance. The relationship between team members and leaders might be operation-oriented in a hectic working environment, such as rescue teams. Thus, the head group members play a significant contributor in guiding and influencing the team circle to affect the group's performance.

Finally, the results indicated that the mediation effect of team motivation is statistically significant. The findings were supported by Lees and Dhanpat (2021), who demonstrated a significant effect of motivation in mediating the leadership on employee performance, and further proved that motivation act as a mediating role between performance appraisal and job performance. Furthermore, Danish et al. (2015) revealed that motivation significantly mediates the relationship between task performance and public service motivation. Thus, team motivation is concluded as a significant mediator from the findings. The commander's support, guidance, and direction in a challenging working environment, such as firefighters, are vital in motivating followers to conduct the mission and achieve high team performance.

## 8. Conclusion

This study contributes extensively to national disaster management in the Malaysian context because a leader in charge during a rescue mission is responsible for the mission's success. The missions are entirely dependent on each decision made by a leader in charge during the operation. Leaders need to simultaneously make quick decisions and focus on the decision's consequences. They need to constantly reflect and re-evaluate the situation in various ways, anticipate what will happen, and take appropriate action. Team leaders play an essential

role in disaster management to identify the primary issues and prepare complete, clear, and comprehensive information about accidents, incidents, and disasters.

This study analyzed the direct relationship between team leadership and SAR team performance and the indirect relationship between team leadership via the mediating role of team motivation. Team performance is the ability of the rescue crew to achieve proper disaster management by utilizing the right skills, knowledge, and experience within the targeted time. Team leadership plays a vital role in team performance. Most teams consist of individuals responsible for defining team goals and developing and structuring the team to accomplish disaster management. Thus, leaders need to set an appropriate direction and guidance for the followers to build trust, pride, loyalty, and respect and directly motivate them to exceed expectations.

The four aspects of team leadership, namely idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation, are essential for rescue commanders because these four aspects can assist them in boosting team performance. Moreover, team motivation is also crucial in assisting the teams to perform tasks and providing a sense of positive behavior over a long period throughout the rescue mission. Therefore, motivation will allow the teams to work towards the goals set by the organization.

The present research has generally depended on the sample drawn from the SAR team in FRDM. Hence, the results may not apply to teams from other industries such as education, logistic, tourism or hospitality, banking, and service sectors. Besides, studies addressing team performance in the human resources field are still scarce, particularly on aid teams. Most previous scholars frequently studied team performance in the military or private organizations.

This study aimed to understand the role of team leadership that can lead to a team's better performance deeply. Firstly, future research must identify the external factors of SAR team performance, such as work environment, technology compatibility, and relational boundary. Besides, additional studies on SAR team performance in other countries are needed because the work and scope might differ in Asian, European, and American contexts. Finally, motivation should be critically studied as a mediator, especially in Malaysia's SAR unit setting.

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#### **Declaration Of Interest Statement**

There is no conflict of interest associated with this publication.

## References

- Adi, K. R. (2019, October). Transformational Leadership and Team Performance: The Role of Innovation in Indonesia Property Agent Industry. In *2018 International Conference on Islamic Economics and Business (ICONIES 2018)*. Atlantis Press.
- Ahmad Syauqi, H. (2013). Peranti Pemadam Kebakaran Automatik Kenderaan. *Digital Collection Universiti Teknikal Melaka*, 1-24.
- Albanese, J., & Paturas, J. (2018). The importance of critical thinking skills in disaster management. *Journal of business continuity & emergency planning*, 11(4), 326-334.
- Albrech, S. L. (2011). Handbook of employee engagement: Perspectives, issues, research, and practice. *Human Resource Management International Digest*, 19(7).
- Allen, W. E. (2018). Leadership Theory: A Different Conceptual Approach. *Journal of Leadership Education*, 17(2).
- Arar, K., & Orucu D. (2021) Rethinking Educational Leadership and Policy in Schools in Challenging Circumstances: Inter/Intra-Continental Perspectives. *Leadership and Policy in Schools* 20:1, 1-5.
- Bardach, E. (2001). Developmental dynamics: Interagency collaboration as an emergent phenomenon. *Journal of Public Administration Research and Theory*, 11(2), 149-164.
- Beydoun, G., Dascalu, S., Dominey-Howes, D., & Sheehan, A. (2018). Disaster management and information systems: Insights to emerging challenges. *Information Systems Frontiers*, 20(4), 649-652.
- Bogue, R. (2019). Disaster relief, and search and rescue robots: the way forward. *Industrial Robot: the international journal of robotics research and application*. 46 (2), 181–187.
- Caillier, J. G. (2016). Does public service motivation mediate the relationship between goal clarity and both organizational commitment and extra-role behaviors?. *Public Management Review*, 18(2), 300-318.
- Cawe, M. (2006). Factors contributing to employee engagement in South Africa. *University of Witwatersrand, Johannesburg*, 74.
- Chandrasekar, K. (2011). Workplace environment and its impact on organizational performance in public sector organizations. *International journal of enterprise computing and business systems*, 1(1), 1-19.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, 295(2), 295-336.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum. Federal Emergency Management Agency, (2018). Leadership In Supervision — (6 Day). 1-376. [https://nfa.usfa.fema.gov/ax/sm/sm\\_n0645.pdf](https://nfa.usfa.fema.gov/ax/sm/sm_n0645.pdf)

- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, Vol. 18, 39-50.
- Gablks, E. (2021, May 19). *Free fire service training from the National Fire Academy*. US Fire Administration. <https://www.usfa.fema.gov/training/nfa/>.
- Greenberg, J. (2014). *Behavior in Organizations: Global Edition*. Pearson Higher Ed.
- Gruman, J. A., & Saks, A. M. (2011). Performance management and employee engagement. *Human resource management review*, 21(2), 123-136.
- Hair Jr., J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE Publications.
- Harris, T. E., & Nelson, M.D. (2008). *Applied organizational communication: Theory and practice in a global environment*. New York: Lawrence Erlbaum.
- Jabatan Bomba dan Penyelamat Malaysia (2019). *Portal Rasmi Retrieved from https://www.bomba.gov.my/*.
- Lai, C. Y., Hsu, J. S. C., & Li, Y. (2018). Leadership, regulatory focus and information systems development project team performance. *International Journal of Project Management*, 36(3), 566-582.
- Lees, D., & Dhanpat, N. (2021). Relationship between manager credibility, strategic alignment and employee motivation. *SA Journal of Human Resource Management*, 19, 11.
- Majlis Keselamatan Negara (2019). *Portal Rasmi Retrieved from https://www.mkn.gov.my/web/ms/*.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation Analysis. *Annual Review of Psychology*, 58, 593-614. Doi: 10.1146/annurev.psych.58.110405.085542. 593-614.
- Micheletto, M., Petrucci, V., Santos, R., Orozco, J., Mosse, D., Ochoa, S. F., & Meseguer, R. (2018). Flying real-time network to coordinate disaster relief activities in urban areas. *Sensors*, 18(5), 1662.
- Morgeson, F. P., Reider, M. H., & Campion, M. A. (2005). Selecting individuals in team settings: The importance of social skills, personality characteristics, and teamwork knowledge. *Personnel Psychology*, 58(3), 583-611. DOI: 10.1111/j.1744-6570.2005.655.x.
- Purwadita, C. P., Sudiro, A., Mugiono, M., & Idris, I. (2018). Innovation in leadership and team performance: Evidence from Indonesia property agent industry. *MEC-J (Management and Economics Journal)*, 2(2), 117-132.
- Qaiser Danish, R., Khalid Khan, M., Usman Shahid, A., Raza, I., & Afzal Humayon, A. (2015). Effect of intrinsic rewards on task performance of employees: Mediating role of motivation. *International Journal of Organizational Leadership*, 4(1), 33-46. <https://doi.org/10.33844/ijol.2015.60415>

- Ringle, C. M., Wende, S., & Will, A. (2005). SmartPLS 2.0 (beta). Hamburg, Germany.
- Salas-Vallina, A., Alegre, J., & López-Cabrales, Á. (2020). The challenge of increasing employees' well-being and performance: How human resource management practices and engaging leadership work together toward reaching this goal. *Human Resource Management*.
- Salifu, I., & Agbenyega, J. S. (2013). Viewing teacher motivation in the Ghana education service through a postcolonial lens.
- Schaffer, B. (2008). Leadership and motivation. *Supervision*, 69(2), 6.
- Shahreki, J., Ganesan, J., & Nguyen, T. T. (2020). Personality traits and individual performance: test of the mediating role of motivation among top management. *International Journal of Business Governance and Ethics*, 14(3), 225-249.
- Suhaimi, A. W., Marzuki, N. A., & Mustaffa, C. S. (2014). The relationship between emotional intelligence and interpersonal communication skills in disaster management context: A proposed framework. *Procedia-Social and Behavioral Sciences*, 155, 110-114.
- Tyran, K. L., Tyran, C. K., & Shepherd, M. (2003). Exploring emerging leadership in virtual teams. *Virtual teams that work: Creating conditions for virtual team effectiveness*, 183-195.
- Tysen, A.K., Wald, A., Spieth, P. (2014). The challenge of transactional and transformational leadership in projects. *Int. J. Proj. Manag.* 32 (3), 365–375.
- Wang, X. H. F., Kim, T. Y., & Lee, D. R. (2016). Cognitive diversity and team creativity: Effects of team intrinsic motivation and transformational leadership. *Journal of Business Research*, 69(9), 3231- 3239.
- Wang, D., Waldman, D.A., Zhang, Z. (2014). A Meta-Analysis of Shared Leadership and Team Effectiveness. American Psychological Association.
- Wellins, R.S., Bernthal, P. and Phelps, M. (2005) Employee Engagement: The Key to Realizing Competitive Advantage. [http://www.ddiworld.com/ddi/media/monographs/employee\\_engagement\\_mg\\_ddi.pdf?ext=.pdf](http://www.ddiworld.com/ddi/media/monographs/employee_engagement_mg_ddi.pdf?ext=.pdf)
- Zaccaro, S. J., Ely, K., & Nelson, J. (2008). Leadership processes and work motivation.
- Zailan, N. W. B., Alsagoff, S. N., Awang, N. F., & Mohd Shukran, M. A. (2013). Method of Search and Rescue in Dipterocarp Forest Using GPS Technology. In *Advanced Materials Research* (Vol. 626, pp. 195-199). Trans Tech Publications.







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