

CHAPTER 1

INTRODUCTION

1.1 Background

In today's Indonesia, diverse threats, obstacles, and challenges, including unconventional warfare, require solutions beyond relying solely on the national army (TNI). Sarjito, (2022) explained that hybrid war is the synchronized use of multiple instruments of power tailored to specific vulnerabilities across the full spectrum of social functioning to achieve synergistic effects. It is deliberately exploits ambiguity, creativity, and the understanding of war to make attacks less visible. This is because they can be adjusted to stay below certain detection and response thresholds, including international legal thresholds, thereby hampering the decision-making process and making it more difficult to react to hybrid warfare attacks. One of the hybrid threats that needs to be paid attention to nationwide recently is the threat of artificial intelligence, which, if examined from a historical perspective, comes from the Industrial Revolution 4.0.

Every sovereign country has its own national defense system. The Ministry of Defense of the Republic of Indonesia is the implementing element of the government in the defense sector led by the Minister whose position is subordinate to and responsible to the President who has the task of carrying out government affairs in the defense sector to assist the President in administering the country's government. Additionally, the Ministry of Defense is responsible for a range of functions aimed at effectively carrying out its intended tasks. These functions encompass the formulation, determination, and implementation of policies in areas such as defense strategy, defense planning, defense potential, and defense power.

Moreover, the ministry plays a pivotal role in coordinating task implementation, offering guidance, and providing administrative support to all organizational elements within its structure. It manages state property and wealth, oversees the execution of tasks, and handles the management

of defense facilities. The ministry is actively involved in research and development within the defense sector, as well as in education and training initiatives. Furthermore, it takes charge of the management of strategic defense installations, oversees technical activities from the central level to regional levels, and provides substantive support to all organizational elements within the Ministry of Defense.

In contemporary times, the landscape of security threats has evolved beyond traditional military challenges to encompass a significant focus on cybersecurity. In addition to the conventional concerns related to armed forces and physical defense, the increasing reliance on digital technologies has introduced new dimensions of vulnerability. The emergence of cyber threats poses substantial risks to national security, as malicious actors exploit technological weaknesses to compromise critical systems, disrupt essential services, and steal sensitive information.

In the current security landscape, effectively addressing threats requires a comprehensive strategy that seamlessly combines traditional defense tactics with cybersecurity measures. This all-encompassing viewpoint recognizes the interconnected nature of contemporary threats and emphasizes the significance of adjusting defense mechanisms to protect not just physical borders but also the virtual domain, where cyber threats present a significant challenge.

The ministry of defense of the republic of Indonesia carries out its functions into a group of work units. The directorate general of defense strategy is the element implementing defense duties and functions which is under and responsible to the minister of defense. Directorate general of potential defense which has the task of formulating and implementing policies and technical standardization in the field of defense potential. The directorate general of defense forces is tasked with formulating and implementing policies and technical standardization in the field of military defense forces. The directorate general of defense planning is responsible to the inister of defense and apart from that, there is an education and

training agency which acts as a center of excellence for professional human resource education and training for the ministry of defense. The final work unit is the secretariat general, has the task of coordinating the implementation of tasks, coaching and providing administrative support to all organizational units within the ministry of defense. Data and information center and personnel bureau are the two work unit within the secretariat general.

The Ministry of Defense as a pioneer in national defense has work units in accordance with the field of defense posture. One of them is the data and information center (pusat data dan informasi /pusdatin) of the Ministry of Defense of the Republic of Indonesia. Pusdatin exists to serve critical functions related to the collection, management, analysis, and dissemination of data and information pertinent to national defense. Cybersecurity monitoring also one of critical attention of Pusdatin since it plays a role in monitoring and safeguarding the defense ministry's digital infrastructure. This includes protecting sensitive military information from cyber threats and ensuring the integrity and confidentiality of critical data.

On November 3 2023, the Ministry of Defense website was attacked by hackers which resulted in the website being temporarily closed by the Ministry of Defense. Even though the statement appears that no critical data was stolen, there is a need to be careful because this incident did not happen just once. This negligence needs to be dealt with seriously so that there are no more serious cases occurring in the future.

Another work unit within the indonesia's ministry of defense of the Republic of Indonesia is the personnel bureau. The work unit play a crucial role to attracting the nation's best talents to join in contributing to the ministry of defense organization. Peronnel bureau under the Ministry of Defense's has a mission to manage the national defense system using a modern approach, encompassing policy establishment, planning, supervision, and control. It aims to professionally and modernly manage the three National

Defense components by enhancing the development system and coordinating with other government institutions and all national components.

The ministry is dedicated to ensuring the readiness and capability of national resources and infrastructure for defense, fostering harmonious and integrated national development. Additionally, it is committed to enhancing foreign cooperation in defense, supporting national interests and world peace. Focus areas include research and development in defense, carried out through collaboration with universities and strategic industries. Lastly, the ministry targets improving the quality, transparency, and accountability of the National Defense apparatus by strengthening human resources and internal control functions.

In reality, in running the organization, the personnel bureau experiences poor talent management, which has an impact on the entire defense environment where there is a lack of management of the abilities of each employee. Additionally, after civil service candidates pass the selection stage, Ministry of Defense employees undergo education and training at the Defense Functional Technical Education and Training Center (Pusat Data dan Informasi Teknis Fungsional Pertahanan/ Pusdiklat Tekfunghan). In this training, employees for all work units are required to follow a series of lessons in the curriculum. The lessons include technical matters such as computer operation to fostering a sense of alertness to threats in any form that may occur within the organization. Unfortunately, in the last 3 years, based on the curriculum summary in the education program catalog, there has been no discussion regarding the threat of AI (Kemhan, 2022).

In uncertain environments for human resource perspectives in an organization, HR managers must develop flexible cost management, adapt compensation packages, enhance communication, retain top managers, and implement independent team-based strategies for quick decision-making. HR managers will not only face ambiguity in AI but also competition and threats, as Shoss (2017) discovered that employees may feel

vulnerable, leading to less rational decision-making and threats to job security.

Oxford University Press's book "The Death of Human Capital" (Robert & Brown, 2020) forecasts a significant disruption to human capital in the workforce, predicting that technology, particularly AI-driven automation, will replace many employee skills. Therefore, one of the suggestions discussed in it is the need for human resources to sharpen abilities that they do not get in formal education because change is not a new phenomenon, but it is the current speed and turbulence that needs to be prepared.

Talking about defense, it has been found how artificial intelligence is going to affect a country's defense system. Supriyatno (2014) found that the science of defense is broader than the art and science of war, military science and strategy science. Universally speaking, there is no precise definition yet, but the book tried to explain that defense science is a discipline study on how to manage national resources and power in times of peace, war and after war, in order to face threats from abroad and within the country.

Among many goods and the true costs of AI both for primary and secondary sector of a country, it has been found that AI can significantly impact change management in organizations, including defense organizations. In 2021, an assessment created by Schulker et al., (2021) showing how AI is affecting the organizations within the United States of America Air Force personnel as shown in the figure below.

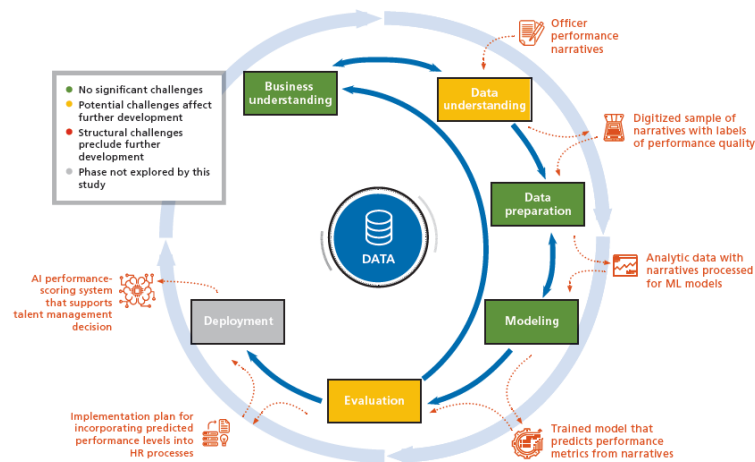


Figure 1. 1 AI asesment in The US Air Force

source : Schulker et al. (2021)

Figure 1.1 shows what parts of management change when AI is used. The green square indicates there are no significant challenges in using AI within the data in running functions in the US air force, meanwhile the yellow square shows how there is a potential challenges in future efforts in accurately extracting officer performance, and in making decision on personnel career. Additionally, grey square explains that deployment will face challenges due to AI performance and it is supporting the yellow square.

Besides the U.S. of America which already keeping up with the AI, China, Russia and Israel are also using artificial intelligence technology on supporting it's defense and their military tasks. Although it is still considered to be a juvenile level, AI has a capacity to change the landscape of defense and security sector which will cause an econommics and military disruption on the international system. Approximately 20 countries have incorporated AI into their national strategies, with numerous non-state organizations actively pursuing research and development in artificial intelligence.

The straightforward task of defining and assessing organizational effectiveness may initially appear simple evaluating how well the change management in an organization performs against certain standards.

However, seasoned experts in organizational analysis recognize that exploring this question can delve into intricate and contentious matters. Criteria for effectiveness can stem from diverse sources, and various stakeholders, reflecting their interests, strive to suggest relevant criteria. The effectiveness of an organization increases along with global competition and one indicator of organizational effectiveness is to look at the change management components that can build productivity (Carroll et al., 2003).

The organization's use of AI must be accompanied by guidance on how to use it and reap its benefits without making mistakes. AI-based technology development is viewed as having two blades: one that can be used to cut down on an organization's operational effectiveness, and the other that can harm the organization's system. In recent years there has been many scientific proves for this views.

The usage of AI for an organization is AI optimizes organizational efficiency by analyzing extensive data, identifying patterns, and automating tasks like data entry, document processing, and order placement in procurement (Saxena, 2020). Decision making for complex datasets also can be done in short period of time along with recommendations offered with AI (Worakamol, 2022). However, along with the good comes the true cost such as the automation of tasks through AI can lead to job displacement for certain roles. This raises ethical questions about the responsibility of organizations and society to retrain and support workers affected by technological advancements, ensuring a just transition in the workforce (Qamar et al., 2021).

The most recent regulation in Indonesia that put importance of AI falls under the regulation of the Electronic Information and Transaction Law No. 11 of 2008, amended by Law No. 19 of 2016, and Government Regulation No. 71 of 2019, treating AI as an electronic agent. Despite the 2020-2045 National Artificial Intelligence Strategy serving as a reference, specific regulations for AI technology are currently lacking (Rahmatika, 2022). The scope of this law is still very limited considering that currently there is clear

evidence of the effect of using AI on the effectiveness of an organization when undergoing change management.

The Republic of Indonesia's Ministry of Defense is the implementing element of the government in the defense sector which one of its functions is to carry out substantive support to all elements of the organization. As a critical sector, Indonesia's ministry of defense is a primary organization in dealing with threats caused by artificial intelligence as one of the potential danger, it is in the non-military dimension. Apart from that, the development of AI will also affect the organizational running system within the Ministry of Defense. Since AI is considered to have an effect on change management in organizations, so the first step in responding to this phenomenon is to find the right model to see the effectiveness of change in the organization.

The increasingly real threat posed by AI should be of particular concern to government agencies, especially within the Ministry of Defense as a pioneer of national defense in the realm of organizational management. AI is considered a technological advancement, but with evidence of the benefits and disadvantages that exist, a new policy should be created to avoid its potential threats. Government agencies, particularly the Ministry of Defense, should be alarmed by the growing threat of AI. Despite its technological advancements, a thorough internal assessment is necessary to understand its impact, benefits, and drawbacks, prompting the need for the latest research and development within the Ministry of Defense.

By the concerns above, a suitable solution to this negligence can be solved from the very principle in change management model namely exploring individual's awareness, desire, knowledge, ability, and reinforcement using ADKAR (Awareness, Desire, Knowledge, Ability, Reinforcement) model. ADKAR's model is effective in guiding individuals through change, creating new lenses for viewing change, encouraging action, and addressing how change occurs one person at a time. ADKAR model can be an effective alternative in seeing changes in management.

Additionally, the ADKAR model is prescriptive and defines the elements that must be present for a change to be successful. The ADKAR model is considered effective for assessing change because it provides a structured framework that focuses on individual and organizational change management. The ADKAR model, focused on results, sets clear milestones to facilitate sustainable change, minimizing resistance. It is a key element of Prosci's change management methodology. (Angtyan, 2019).

Based on the phenomena that occur and the emergence of research problems, in this study the researchers worked on a thesis with the title **“The Change Management in Indonesia’s Ministry of Defense Using ADKAR Model in Facing Threats of Artificial Intelligence”**

1.2 Focus and Subfocus

1.2.1 Research Focus

The focus of this research is to examine the change management in Indonesia’s ministry of defense using the ADKAR model in facing threats of artificial intelligence.

1.2.2 Research Subfocus

As for the sub focus in this research are:

- a. Build awareness of change management in Indonesia’s ministry of defense.
- b. Create desire of change management in Indonesia’s ministry of defense.
- c. Develop the knowledge of change management in Indonesia’s ministry of defense.
- d. Build ability of change management in Indonesia’s ministry of defense.
- e. Reinforce the change management in Indonesia’s ministry of defense.

1.3 Problem Formulation

Current government regulations that act as a starting point for regulations related to artificial intelligence are only limited to Government Regulation no. 71 of 2019 where this regulation only looks at artificial intelligence as an electronic agent and there is still little national literature available regarding artificial intelligence, especially its impact on defense related-organizations.

Pusdatin and personnel bureau as the critical unit in the ministry of defense needs to had an assessment regarding the changes in the organization. The author finally found the formulation of the problem as follows:

- a. How to build awareness of change management in Indonesia's ministry of defense?
- b. How to create the desire of change management in Indonesia's ministry of defense?
- c. How to develop the knowledge of change management in Indonesia's ministry of defense?
- d. How to build ability of change management in Indonesia's ministry of defense?
- e. How to reinforce the change management in Indonesia's ministry of defense?

1.4 Research Objectives

Based on the background and problem formulation described above, this study has the objective to identify the change management using ADKAR model in facing threats of artificial intelligence. Descriptively, the purpose of this study is as follows :

- a. Identify the awareness of change management in facing threats of artificial intelligence.
- b. Identify the desire of change management in facing threats of artificial intelligence.
- c. Identify the knowledge of change management in facing threats of artificial intelligence.
- d. Identify the desire of change management in facing threats of artificial intelligence.

- e. Identify the reinforcement of change management in facing threats of artificial intelligence.

1.5 Research Benefits

By the formulation of the problem that has been prepared and the writing objectives to be achieved in this study, the theoretical and practical benefits that can be obtained are as follows:

1.5.1 Theoretical Benefits

The results of this study are expected to be able to increase literacy variations regarding the change management of an organization in facing threat of artificial intelligence, especially if it is faced by defense organizations/institutions given the lack of national research on this issue.

1.5.2 Practical Benefits

Practically, the results of this research are expected to be able to create noble outcomes, for Indonesia's ministry of defense and the work unit such as pusdatin and personnel bureau.

- a. For Pusdatin and personnel bureau can be used as reasearch and development material about the change management with ADKAR model for addressing threats of AI in the organizations.
- b. For Indonesia's Ministry of Defense can be used as a one of the supporting material for creating additional topic in personnel training.